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The Three-way Benefits of Good Telephone Earnings

USERS EMPLOYEES INVESTORS

They benefit the telephone customer by providing the means to expand and improve the service and do it economically.

They benefit employees because they help to provide good jobs.

They benefit the investor by protecting his savings and insuring a good and secure return on his investment.

There is, indeed, no basis for the belief that keeping telephone earnings low is a sure road to keeping rates low.

Such a philosophy, by limiting progress and long-pull economies, will lead almost always to the opposite result . . . poorer service at a higher price than the customer would otherwise have to pay.

In all lines of business, it's the companies whose earnings are good that are able to make the best products, provide the best service, and give the best values.

BELL TELEPHONE SYSTEM

The Journal of Higher Education MAY, 1958 II

New Star for the American Wise Man?

By CARL W. MCINTOSH

Implications of Recent Scientific Developments to Education

UNTIL October 4, 1957, we tried to win friends and influence people by constant repetition of the Annie Oakley chant, "Anything you can do, we can do better—we can do anything better than you." I suspect that we did not give a very high priority to the moon-making business, and no one yet has demonstrated beyond reasonable doubt that the priorities were wrong apart from the effect that "the thing" has had on public confidence. I cannot help feeling that the awakening of the American people and the ultimate effect upon our sense of values will be beneficial, but some excesses will follow in the wake of the satellite.

We must decide now whether to perform more effectively within an American philosophy or abandon the basic principles for which we have stood and in which we have said we believed, in an effort to imitate the Russians and by hysterical default compete on their terms and according to their rules. In short, is Sputnik the new star for the American wise man? This is no time for a "business as usual" outlook. Neither is it a time for an educational "Operation Fiasco." The differences between serious concern, academic anxiety, and educational hysteria are not easy to measure. That we will see modification of our educational pattern is certain. That we will see an increased concern over the training of technicians, engineers, and scientists is certain. It is apparent that many who have completed the Bachelor's degree with dubious distinction in some area of science or technology will fall easily into the use of the phrase, "We scientists," and speak *ex cathedra* on many topics. A flood of proposals will come to us from all

sources. I suggest that we consider five criteria which might be used to evaluate them.

THE first is, Does the proposal take into account the known quantity of trained men and women required to accomplish its objectives? The low birth rate of the 1930's introduced what has been termed "a bubble" into the population pipe line. The age group thirty to forty-four will decline in number until about 1970. This means a shortage of young technicians, business executives, and professional men for the next decade or so.[1] Need is not synonomous with demand, but demand is none the less a real factor which affects the staffing of colleges and universities. There are not enough men and women trained to a high level in mathematics or physics to satisfy the present demand. For the most part, such men and women go where the rewards are greatest and the working conditions are the best. No one can increase the supply over night. The Research Division of the National Education Association distributed last November a report of a study of teacher supply and demand in colleges and universities. Of the 761 institutions participating in the study, half of them reported positions unfilled in either one or the other of the last two academic years. The largest numbers of unfilled positions were in the fields of engineering (226), physical sciences (225), and mathematics (148).[2] No one can "put mathematics back into the curriculum" without either more mathematics teachers, better utilization of the teaching skills possessed by those who are competent, or a combination of both. The phrase, "back into the curriculum," will arouse and antagonize those who can defend successfully their present practice; there are many who can. The shoe is intended only for the foot it fits.

The second criterion is, Does the proposal provide the minimum lead time required to accomplish its objectives? "Lead time" is a familiar concept to those dealing with design and production. It is a way of saying that the thought is not the deed. Perhaps the best way to emphasize its importance to a consideration of educational problems is to confine the discussion to a single illustration. Of those ninth-graders who are motivated to begin a career in science or mathematics next year when they enter high school, those who survive the rigors of academic training will not be ready to undertake a high-level position in teaching, research, or industry until 1968 or later. It is belaboring the obvious to observe that if the proposals require more men and women trained to a high level of competence rather than a redistribution of those available, the time required to train them should be a condition of its acceptance. To say that we will re-emphasize mathematics and sciences in the schools is meaningless unless we put someone in the schools who can do so, extend the influence of those already there, or supplement their work by the use of community resources in ways heretofore not considered a "normal" approach to the problem. No alternative should be overlooked.

[1]Turner, Robert C. "The College Graduate in the American Economy, 1970," *Proceedings of the Conference on Graduate Study, May 13-14, 1955.* Bloomington, Indiana: Indiana University Bookstore, 1955, p. 12 (Indiana Business Information Bulletin, No. 23).

[2]Research Division, National Education Association. *Teacher Supply and Demand in Colleges and Universities, 1955-56 and 1956-57.* Washington, D. C.: National Education Association, 1957, p. 22.

We are far from efficient in the employment of our skilled man power; this we cannot deny. Neither can we deny that a free society which relies for the most part upon reward and eschews punishment as a means of directing the energies of its citizens accepts a certain built-in inefficiency as the price it is willing to pay for personal liberty and political freedom. Before we follow the will-o'-the-wisp of arbitrary direction of the civilian effort, we should note that although our armed services enjoy the privilege of control and direction of their man power, they have not always been above reproach in the matter of its efficient utilization. It may be that we can devise a better co-ordination of the skilled effort of which we are capable, but there are limits to what can be accomplished by shuffling paper or, for that matter, by shuffling people.

These comments are pertinent to the third criterion, Does the proposal go beyond the manipulation of organization charts, or the uncritical defense of those we already have? We know that it is important to have a fair share of the best engaged in college teaching in all academic areas. We know also that it is important to have a fair share of the best in industry and in government. Within the framework of our American principles, relative salaries and other considerations will determine the distribution of these skills. When any particular area enjoys a controlling advantage, other areas will suffer. Not only must the colleges and universities enjoy a more competitive position in order to secure the services of the most competent, but they must exercise ingenuity in making efficient use of their skills and abilities. No sacred cows should be excused from searching scrutiny. Class size, student-teacher ratios, space and time utilization, variations in the techniques of communication, attention to learning as well as to teaching—all of these things must be examined together with our efforts to secure more of the best. Income opportunities will influence a new generation. The intangible element of status will influence selection of a field of endeavor. But nothing can overcome quickly the educational deficit which has grown with the years. It can be overcome, perhaps more quickly than a superficial examination of the evidence suggests. We have advanced means of communication; we have men of skill and ability; we have substantial resources.

When I suggest the fourth criterion, Does the proposal identify the nature of the sacrifice which must be made to accomplish its objectives? I mean simply that nothing in life is free. If we redistribute the skilled and competent, some area suffers. If we wish to increase the numbers of the competent who select teaching as a career, relative status and reward must be increased. Again, relatively speaking, some groups will suffer. If we wish specialized training for all of the highly competent, the cost must be deferred and all will share an increased burden. It has been the search for the easy way that has us in trouble. We do not yet have the elusive quality of commitment on any broad scale. People are disturbed; some of them are excited, many are earnest. We say that education is important, but we are not quite ready to pay our teachers as if we believed it. We say that public service is worth while, but we are quicker to condemn than

to reward those who work in the public interest. We say that we have unified the armed forces, but we know that we have not. In short, we are willing to make any sacrifice so long as it does not reduce the availability of consumer goods, lengthen the work week, or offend the farmer. This, like any generalization, is not true for all and perhaps not all true for any; but we are not committed, not as a people. But this commitment must come, step by step, school board by school board, faculty by faculty, and state by state, until we know that we are doing what we know we can do.

The last criterion, Does the proposal adhere to American principles to accomplish its objectives? could be discussed in the abstract, but for the time being, let us hope that it needs no elaboration and that all will apply it to any proposals that may be made. Our limited objective is that of overtaking certain aspects of Russian technology. If we fail in this, we fail in all else, and there is no point in discussing other values. Let us assume, however, that in this we will be successful. We should not make the assumption lightly; we should not confuse ability with performance. History will judge us not by what we are capable of doing but by what we do. I do not underestimate the value of the "chin up" attitude, but it is apparent that the shocking discovery that there are intelligent and able men in the world who are not Americans has been a traumatic experience for some who have long expounded the superiority of everything American because it was American. The search for scapegoats is inevitable, and cries of "shocking" and "failure" will reward the dedicated scientist as well as the technological diletante in a frantic attempt to explain why no American can ever be described as first in war, first in peace, and first in the conquest of outer space.

I did not grow up on a farm and cannot, with the easy assurance of some of my colleagues, employ the folksy agrarian simile which endears them to their constituents, but based on limited observation I can say that when a team is in harness the horse that holds his head the higher may not be pulling his share of the load. Now more than ever is a time for humility. Now more than ever is a time to avoid humiliation. Now more than ever is a time to learn. When we are successful in achieving this limited objective, what then?

I suggest that we consider these premises: first, that both the United States and Russia, now or in the immediate future, will possess the technical potentiality for complete mutual destruction; second, that either through fortunate circumstance or some last minute insight, both will choose some other course than that portrayed in Nevil Shute's *On the Beach*, namely, the destruction of the world's population.

WHAT are the instruments of decision when the chief instruments of power cancel each other out? A friend of mine observed a few years ago that over a long period of time the world's chess championship tended to gravitate to the nation dominating the affairs of the world at that time. No astrological reasoning was employed to demonstrate a cause-effect relationship. The point is that the

Russians are excellent chess players. In chess, when the main instruments of power cancel each other out, the pawns may win the game. Possession by both the United States and Russia of a practical ICBM might well elevate some obscure device to the level of an instrument of decision, or leave that rôle to those we now possess. We cannot omit from this consideration the importance that negotiation may play. Nor can we neglect the training of our practicing social scientists. The conference table does not lose its importance with these developments. The awesome burden carried by those who deliberate and those who decide is greater than men have carried before. If they falter, all is lost. Who can afford to neglect their education? Who can afford to deny them the opportunity to refine their judgment in an environment of controlled risk before asking them to venture, dispatch case in hand, into the tumult of international affairs, its linguistic hazards and unlimited potentialities for chaos and destruction? Is the area of government, law, and diplomacy, with all its dependence upon history, economics, sociology, languages, and the cultural traditions of all nations, one which we should neglect?

In the era described as a cold war in which world prestige influences the loyalty and affiliation of a large part of the world's population, shall we depend upon our troops in other countries as the only interpreters of the American dream? Shall we permit our pride in our plumbing, our automobiles, and our supermarkets to remain the only indelible impression on the hungry and the footsore? People who are hungry are not much concerned about the niceties of national philosophy, but ideas still have the power to inspire men and to direct their energies. Are the areas of journalism, ethics, philosophy, psychology, education, or the fine arts those which we should neglect?

Sputnik II contained a dog. We should attend to what that dog signifies also. The use and control of machines which we have already produced challenge human capacity. At supersonic speeds man cannot avoid collision by relying on eyesight. The rate of closure between our fastest airplanes is such that by the time the pilots can see each other it is too late to avoid the inevitable if they are on a collision course. The human mechanism has some built-in limitations. A knowledge of these limitations becomes increasingly important in the use of radioactive materials which can deliver or destroy, the use of machines which must master or be mastered, and in the conquest of a world beyond our dreams. This is the meaning of the dog in Sputnik. Are we then to neglect biology and medicine or any of the related studies which may help us understand the limits of the human mechanism or give us insight into the ways by which we may survive? When the hazards of man's physical environment are equated, when the sources of power at his command cancel each other out, man's knowledge of himself may be the pawn that wins the game. Is this the area we should neglect?

We should distinguish between the probable success of a crash program as applied to limited objectives and the probable failure of certain kinds of crash programs as applied to long-

range objectives. A crash program, by which I mean a subordination of all divergent aims or goals, will get us a bigger and better satellite if we want one, and I suppose we do. But we will pay for it, not just in dollars but in redirected energies. A single-mindedness of purpose requires those pursuing it to be heedless of the distracting byways of research in which the answers to other challenges may lie. So far as the limited objective is concerned, we will not get our bigger and better satellite by pouring countless dollars into the paths and byways of the nation's research resources. The answer to this challenge is to support to the extreme limit of our ability the work of the most able of our scientists, engineers, and technicians.

SO FAR as our long-range objectives are concerned, it is not enough just to say that mathematics and science are a part of today's environment and that the generation that will not learn will not survive. As abruptly as possible, we must change the attitude of the American people toward the value of intellectual effort. It must be recognized that there are many intelligent people who have no interest in things intellectual; but the fact that there are intelligent clerks, salesmen, merchants, mechanics, farmers, miners, and so on, is no excuse for deriding the interest or the attitudes of those who have made a profession of thinking. The impact of Sputnik on America will be reflected in an increased concern with science and mathematics in the curriculum. The impact on most other countries will be an emphasis on Russian language in the curriculum.

We must do three things: First, we must identify those who can excel. Second, we must motivate a calculated share of them to pursue intellectual interests. Third, we must make it possible for them to learn with a minimum of wasted effort.

We must not do any of the following: We must not imagine that dollars invested in training are the equivalent of creative genius. We must not use the anxiety of the people to justify a pattern of technological boondoggling masquerading as research under a rash of hastily prepared research proposals. We must not insist that all of the able or all of the brilliant become scientists. We must not force the able but unwilling into fields for which they are unsuited in a futile and desperate attempt to manage our man power by fiat. We must not spend too much time trying to think of substitutes for money in the necessary revision of our evaluation of intellectual effort.

We must place a high value on trained intelligence. We cannot pay our teachers less than we pay our laborers and expect our children to respect learning. Unless they respect and value it, they will eventually be governed by those who do.

I would question the wisdom of a long-range program which would interpret re-emphasis of mathematics and science to mean the neglect of other subjects or their exclusion from the students' program. Specialization, to be sure, is essential at the graduate level. Selection of field and fundamental concepts are essential at the undergraduate level. Scientific literacy is essential before college. But our nation will not fulfill its destiny if we isolate the technician

and insulate the scientist. Specialization sends men down the spokes of a great wheel. If they are to communicate with each other, they must have a common configuration of knowledge at the hub and a reasonably understandable system of symbols at the rim. To the extent that we deny the scientist of tomorrow the vicarious experiences gained through literature, the lessons of history, the creative stimulation of the arts, and those subjects which describe or explain man's behavior, we weaken the hub. To the extent that we neglect his understanding of semantics, or fail to develop his skill in writing and speech, we deny him access to the rim. If we bind the mind as the Chinese once bound the feet, we will develop only the crippled brilliance of the idiot savant, missile masterminds, and cultural zombies. This is not to say that training must have a broad base or comprehensive foundation. The interests of students do not grow in geometric patterns despite the neat building blocks used to diagram the ideal curriculum. Neither does each student branch out like a tree, firmly rooted and graceful in his symmetry of understanding. Students learn more like unfissionable amoebas, taking in that which is to their liking and rejecting that which they find distasteful, and they become all shapes while their worried parents and teachers put things in their paths, hoping that they will engulf them. The point is, certain things should be put in their paths, perhaps several times. Somewhere in the American's education he should have the learning that educated men value made available to him. If he is to achieve a certain misshapen magnificence, called with nauseating repetition "well rounded," an achievement as impossible as it would be dull, he must grow in many directions.

Recently I read a notice on a hotel desk which said, "The scientifically heated pool is for the exclusive use of registered guests. Adherence to the following rules will enhance the pleasure of all those entitled to its privileges." Note that it is "scientifically heated." Does this mean that it is heated by scientists? No wonder we have a shortage. Why not just make the janitor responsible for keeping the water pleasantly warm? What a remarkably simple solution. All we need to do is to turn the heating of all the swimming pools in the country over to the janitors and free all those scientists for bigger things. We will call it a splash program. If we are to go off the deep end, frivolity is no worse than folly, it is just easier to recognize.

Comparative Education and the Administrator

By BRIAN HOLMES

The Need of Reliable Predictive Hypotheses in Educational Reform

THE aim of many nineteenth century pioneers of comparative education is well known. They were administrators, eager to reform their own educational systems, who looked to other countries for inspiration. Most of them recognized the dangers of cultural borrowing. They were aware that any educational innovation within the cultural pattern might have deleterious effects, since there was a close relationship between various social institutions. Horace Mann, Henry Barnard, William Torrey Harris, Matthew Arnold, and Michael Sadler, among others, wished to borrow from the educational systems of other countries without in the process destroying or damaging the traditions and values they cherished.

This desire to reform education persists today. Everywhere, statesmen are seeing the schools as important agents in the social and economic development of their countries. Organizations like UNESCO are constantly being asked to provide realistic solutions to urgent educational problems. The possibility of creating new educational institutions to meet particular purposes is widely felt. The danger to traditional institutions of doing so is a constant fear. The implications of innovation are, indeed, often vague. What in fact comparative educators are being called upon to provide are accounts of the socio-political-economic consequences of educational reform. From this practical viewpoint, then, comparative education should be a predictive science.

There is no reason, of course, why comparative educators should accept a practical purpose in the study of their subject. Few would deny, however, that they hope to gain some understanding of educative processes and the operation of educational institutions thereby. How far the objectives of administrator and scholar can be reconciled is of very real interest. Quite basic to these issues is the question of methodology.

It was, naturally, answered in broad outline by the early pioneers of comparative education. Doubtless the prevailing climate of opinion left its mark on their thinking, for theirs was an age when the growing ability of natural scientists to control man's physical environment gave rise to hopes that, using the right method, it might be possible for him to control his social circumstances as well. An optimistic belief in the inevitable improvability of mankind was asso-

ciated with confident assertions that general laws relating to this progress could be found. There were those who thought it was possible to state laws on which the replacement of one form of society by the next could be explained. The aim of Hegel and Marx, for example, was to prophesy the route society would take toward its ideal, but many others like Comte, John Stuart Mill, Sumner, Lester Ward, and Herbert Spencer put forward theories of social change. Perhaps inevitably these philosophers looked to either the biological or the physical sciences for their methodology. Thus it was the task of Mill in *System of Logic* to state the method of science, induction, and then apply it to the study of society. Spencer accepted current evolutionary theories and applied them to the transformation of society—giving to the process of social improvement a mechanical inevitability. This view might be termed absolute determinism—or even fatalism.

If toward the end of the century we find some sociologists doubting the inevitability of progress, many of them retain a firm conviction that nature is the domain of law and man is a product of it. Thus Lester F. Ward could write:

> Man is a product of that law, but he has reached a stage on which he can comprehend the law. Now, just because nature is a domain of rigid law, and just because man can comprehend that law, his destiny is in his own hands. Any law that he can comprehend he can control. He cannot increase or diminish the powers of nature, but he can direct them.

And he could add:

> . . . To the developed intellect nature is as clay in the potter's hands. It is neither best nor worst. It is what man makes it, and rational man always seeks to make it better. The true doctrine, then, is *meliorism*—the perpetual bettering of man's estate. This will be possible in precise proportion to man's knowledge of nature.[1]

The belief in the inevitability of progress had been tempered. But man—if he were active—could control his destiny; and rational man could improve upon it.

ALONG with these bold prophecies went a great deal of social analysis. Usually it was a causal analysis in which one factor—for example, technology or the economic one—was used to explain changes within any particular social system.[2] Subsequently it might be used, of course, to explain the transformation of one system of society to another. Indeed, the side belief in the universality of natural and social laws made some sociologists predict that what took place in one system would take place everywhere. We see, therefore, that these theorists held that the laws of social development were universal, that all societies would follow them. Hence, predictions from these laws were considered unconditionally valid.

Evidently the reformers of education were more interested in the consequences of change within a system than in the sweep of social transformation. They recognized, as the sociologists did, that historical studies could contribute a great deal to any analysis of social interaction. Moreover they laid stress on certain aspects of the social pattern, for

[1] *Outlines of Sociology*. New York: Macmillan Company, 1898, pp. 25, 26.

[2] Cf. Marx and the means of production.

example, nationalism, and used these to explain education. This kind of study became, in effect, a search for the causal factors in education—linguistic, religious, geographical, and so on—that determine what goes on. The strong historical bias associated with this analysis gave importance to traditionally significant factors. This kind of study was undoubtedly in terms of "causes," and from it were derived certain principles of educational policy which sometimes have been assumed to have unconditional validity. These attempts were certainly in the tradition of many nineteenth-century sociologists and social philosophers. In the field of individual psychology, for example, Mill's psychologism, in which he based his knowledge of society on discoverable laws of the mind, was followed by attempts to measure experimentally one particular mental capacity.

By the end of the century, however, the natural sciences had moved so quickly and far that the theories which had served scientists so well during the Newtonian epoch were proving inadequate. Electromagnetic phenomena, line spectra, and the thermodynamics of radiation threw increasing strains upon Newtonian concepts and particularly on those of the ether. An attempt by Michelson and Morley to measure the motion of the earth through the ether was one of several important experiments which culminated in a new cosmology, a questioning of the logical validity of the traditional concepts of mass, force, and the like, and new theories of measurement. Through this thorough transformation of theoretical physics came the branch of science known as "relativity." And, Herbert Dingle writes, "It is not a trifling change, touching only the latest refinements of physics; it affects the very foundation, the primary definitions and concepts on which the whole science is built."[3] Philosophers of science have been discussing these consequences ever since then, but in some ways this revolution has had little effect on the discussions of many social scientists. If social scientists still wish, however, to follow methods similar to those used in the physical sciences, this change has fundamental implications for them which need examination.

BASICALLY the whole positivistic and deterministic view of the advancement of science was challenged. The concept of absolute measurement was no longer tenable. This led to doubts about the absolute nature and unconditional validity of general laws and to a re-examination of the rôle given to the quantitative aspects of science as vital ingredients. Theories of causation and induction as *the* method of science were outmoded and hence also the search for factors. New rôles had to be given to observation, theory, and hypothesis. Lester Ward's position that nature was "the domain of rigid law" and man was a product of it is difficult to sustain if the implications of relativity are taken seriously. Dingle writes:

> The philosophical importance of relativity arises from the light it sheds on the character of physical thought. . . . In pre-relativity days it was possible for a physicist to be a naïf realist—as, in fact, most physicists, consciously or unconsciously, were. He could believe that he was discovering laws of a world of matter

[3] *The Special Theory of Relativity*. New York: Chemical Publishing Company, Inc., 1941, p. 5.

which was external to himself—laws which had nothing to do with his own thought and which simply described relations between objective qualities of matter which he could discover but could not create or destroy. Today such an attitude is impossible. All such "qualities" of matter are seen to be concepts which we define for ourselves, for the one which we have chosen as fundamental (namely, length), in terms of which to express all others, is itself a function of an arbitrary quantity v, which is at our disposal. Moreover, such so-called objective "qualities" are not merely revealed as subjective concepts, but are also seen to be detached from matter.[4]

This indeed raises the whole question of the objectivity of science.

From another angle, that of the American pragmatists, similar doubts were raised against the concepts of classical physics and *a priori* historicism. Drawing inspiration from Darwin the pragmatists gave significantly new turns to philosophic thought. The first is the idea of pluralistic empiricism which, Philip P. Wiener argues, "is the piecemeal analysis of the diverse issues pertaining to physical, biological, psychological, linguistic, and social problems which resist resolution by a single metaphysical formula." Second, again according to Wiener, there was a pragmatic temporalism which "leads to a more empirical view of history and knowledge than that which finds eternal laws of development in social change and science." In epistemology "you have a contextualistic or relativistic theory of meaning: *the meaning of a statement varies with the spatio-temporal, linguistic, or socio-psychological conditions of its occurrence.*" In ethics "eternal and infallible rules are replaced by contextual, empirically tested generalizations as probable guides, subject to revision in the light of observable agreement or disagreement with predicted consequences." There is also an "abandonment of mechanical determinism in physical and social sciences by viewing laws as probable or contingent." This means, in effect, "the denial of any necessary or privileged status for the findings or 'laws' of either psychical or physical phenomena."[5] It implies, with Protagoras, that "man . . . is the measure of all things, of the existence of things that are, and of the non-existence of things that are not."[6] The responsibility this places on the shoulders of men is infinitely greater than that implied by those, for example, Lester Ward, who thought that the acquisition of knowledge would make it possible for the world to be improved.

The problem of determinism is not solved by stating it. Nevertheless, relativistic theories of science give to the observer a crucial rôle. He is in effect one important factor in the whole deterministic pattern. His actions might, or might not, be predictable. If, however, man's social activity is accepted as an important element in the flow of events, then the determinism, or fatalism, of Marx and the other historicists is radically modified.[7] It presupposes that man

[4] *Ibid.*, p. 89.

[5] *Evolution and the Founders of Pragmatism.* Cambridge, Massachusetts: Harvard University Press, 1949, pp. 191, 195, 198, 199, 200, 202.

[6] "Theaetetus," *The Dialogues of Plato.* 3rd ed. Translated by B. Jowett. New York: Macmillan and Company, 1892, Vol. IV, p. 205, 152A.

[7] This point is discussed by Adolf Grünbaum in "Historical Determinism, Social Activism, and Predictions in the Social Sciences" and M. Roshwald in "The Case for Indeterminism," *The British Journal for the Philosophy of Science,* VII (November, 1956), pp. 236–40 and 240–42.

is in some way master of his destiny, but to what extent? Karl R. Popper has suggested an answer to this in his theory of critical dualism.[8] According to this, a distinction should be made between normative laws, which man is free to accept or reject, and sociological laws. Thus, in examining the social scene, man is able to recognize certain norms and decide which he is prepared to tolerate and those which he feels compelled to reject. A country's legal code seems to reveal most clearly this kind of normative law.

Sociological laws, on the other hand, correspond to the natural laws of the physical environment. Man's control is limited to a manipulation or control of circumstances or factors within the deterministic configuration. He might not be able to control a sequence of events once they have been set in motion under certain conditions; if he changes the circumstances, however, events might take a different course. In predictive sciences, therefore, the need to specify the complete range of determinants, that is, the context, is imperative. In Wiener's terms these laws are no more, or less, than "contextual, empirically tested generalizations." Similarly the reservations made by Mr. Dingle (among others) about the objectivity of natural laws should be remembered. The criterion of usefulness rather than that of proximity to the "truth" should be stressed.

IT IS, therefore, within the limitations of this framework that possible refinements to comparative education as a social science should be considered. And we should agree with Otto Neurath that "as social scientists, we have to expect gulfs and gaps everywhere, together with unpredictability, incompleteness, and one-sidedness of our arguing, wherever we may start."[9] Thus administrators should not expect, at the moment, clear-cut scientific solutions to their problems on the basis of comparative studies. Understandably, reformers and members of organizations like UNESCO wish to have (or be able to provide) realistic policies for education—guides to action for the achievement of certain aims. The success of any policy will be judged by the degree to which the aims are achieved —and this assessment might be possible only over a period of years. Attempts to provide universal theories on which successful policies can be based should therefore be treated with caution. They often show a quite dangerous lack of awareness of the methodological objections to their formulation.

Now the growth of a predictive science undoubtedly depends on the ability of scientists to develop useful hypotheses, theories, and laws. The distinction between the three words should not be overemphasized as it was by J. S. Mill, for example. They are, let us say, statements from which a number of predictions about subsequent events can be made. Functionally, at least, they are similar. Nor are the processes of arriving at them dissimilar. Contrary to the Millsian thesis (and in accordance with more modern philosophical discussion) careful and detailed observa-

[8] *The Open Society and Its Enemies.* Rev. ed. Princeton, New Jersey: Princeton University Press, 1950.

[9] *Foundations of the Social Sciences.* Chicago: University of Chicago Press, 1944, p. 27. (*International Encyclopedia of Unified Science*, Vol. II, No. 1).

tion of data need not, and frequently does not, precede the formulation of hypothesis or theory. The test of a good theory is its predictive usefulness. But theoretically, and certainly in practice, no theory can be used to predict events unless it is accompanied by a careful analysis and statement of the initial conditions or circumstances likely to affect the predicted event. This is of such fundamental importance that it cannot be overemphasized. It applies just as rigorously in the physical sciences as in the social sciences. Indeed, the failure of scientists to take into account significant factors has often led to contradictions between predicted events and observed events and subsequent advances both in theory and in the analysis of influencing conditions. Instances of this are found in the Michelson-Morley experiment and in the effect of thoria on the release of electrons from a tungsten element.

This implies for comparative educators that it is necessary for them, before applying any theory for predictive purposes, to analyze the specific initial conditions or circumstances in as much detail as possible; these may be called determinants. Some theory must of course direct and guide the analysis itself. The one put forward by nineteenth-century pioneers, and widely accepted by scholars since that time, was that education influenced and was influenced by the whole cultural pattern. For the purposes of analysis the most significant areas were the political, the economic, and the social. One problem was, and is, connected with the methodological possibilities of breaking these areas into manageable components.

THE study of institutions has great possibilities and, furthermore, hypotheses (or sociological laws) can be formulated about the relationships which exist among them. This kind of study has two facets. One side reveals the regularities and relationships existing among various aspects (the curriculum, school structure, administrative patterns, and so on) of a national educational system. The other draws attention to the regularities and relationships occurring between educational and other social institutions within the cultural pattern; for example, between the structure of secondary education and the occupational pattern. One object of comparative educators is to make clear these relationships. The test of these sociological laws lies in the correspondence of events predicted from them and actual events. This leads on to the fundamental distinction between natural and sociological laws.

The distinction rests, I think, in the possibilities of testing each type of law. Basically the process would be the same. In each case predicted events are compared with observed events. Agreement indicates that the law is useful and, moreover, offers an explanation of the event. Disagreement should, of course, result in further investigations, either with a view to altering the law or for the purpose of describing the determinants associated with the predicted event. This contextual reservation is of fundamental importance and characterizes the modern view of the limitations of science.

Seen from this position, the social sciences suffer at the moment from two disadvantages. The first is that

it is difficult, if not impossible, to specify all the conditions which might help to determine a predicted event. Associated with this is the almost insurmountable one of not being able to carry through experiments; that is, processes of testing predictions under rigorously controlled conditions. The second disadvantage lies in the absence of accepted standards of measurement in the social sciences. This is the same as saying that criteria of evaluation are difficult to agree upon. They are not acceptable to everyone (as criteria in the natural sciences tend to be) because frequently they appeal not to sense impressions (as, for example, meter readings in the physical sciences do) but to standards that have emotive or moral connotations.

These difficulties throw upon the comparative educator the responsibility of deciding what predictions are possible. Thus it is desirable to avoid predicting, for example, that the consequences of certain educational action will be "happiness" or "social maturity" unless these standards are arbitrarily defined in terms of accepted criteria of measurement. Evidently in many tribal societies the successful completion of an initiation ceremony confers on the individual the badge of "social maturity." In more complex societies equally arbitrary tests are used to determine, for example, whether a person has the right to vote, but it is generally acknowledged that criteria of "maturity" within these societies are much less easily established.

A particular example of the need for caution concerns multilingual countries. Comparative educators should, it seems to me, eschew panaceas for political harmony in terms of language teaching; they might show, however, some educational and economic consequences of adopting one indigenous language for national purposes, such as the cost of training teachers, providing textbooks, and so on. These might be weighed against the educational and economic implications of certain policies like developing the national economy which requires the development of technical education on a large scale. Ultimately, it is probably true to say, the social scientist can offer only a choice of solutions and not the solution. Many conditions and considerations will help to determine what decision is taken. Frequently these will be political or based on expediency.

In any case, the possible solutions will depend upon the initial circumstances of the country under consideration. This means before any policy is proposed a thorough analysis of the area is needed. From this point of view comparative educators have to call upon many allied sciences—anthropology, sociology, political economy, and so on. At the moment few such studies are available for some areas but they are growing in number. Hence, predictions are bound to be very tentative in character. More useful ones await, as much as anything else, the more comprehensive survey of cultural areas of particular countries.

IN THESE studies the data gathered by investigators will depend upon two things: the problem with which they are particularly concerned, and the hypotheses they hold about the possible relationships between educa-

tion and the rest of the cultural pattern. From the second viewpoint it is extremely important that comparative educators should clarify these hypotheses and recognize the limitations of their investigations. Frequently, however, the problems which concern them are alive. They might be suggested by the administrator, or by events taking place in his own country. Historical problems, too, of course, might have great academic interest and nobody would deny that a study of them leads to greater understanding of the present by suggesting fruitful hypotheses on which analysis can be based.

One way of looking at these problems is to work out the consequences of introducing a particular institution into a cultural pattern. For purposes of analysis, the pattern is assumed to be static. Obviously once introduced, an institution sets up a train of events which change the pattern. These changes the comparative educator wishes to predict. They are of two kinds. First, there are the inevitable consequences within the educational system. What is the likely effect on the curriculum of introducing a "common" school? Are traditional systems of classifying pupils likely to remain effective? What about teaching methods? And examinations? Is it possible to maintain the same standards of academic achievement once the school is opened to all children of the neighborhood? One determining factor in all this will clearly be the purpose the school system is designed to serve. Thus in the United States, where the aim of the schools is to promote and support democratic ways of life and institutions, the changes consequent upon the introduction of the common school are likely to be different from those in Europe. Or at least subsequent problems are likely to be solved in different ways in the two areas. Furthermore, the determinants in the United States—geography, demography, economy, political and social structure—are different. Hence the chains of events are likely to be modified. In the United States, the introduction of the common school involved a radical change in the curriculum, methods of classifying, examination systems, and in the activities of institutions of higher learning. Second, other consequences flow from the introduction of the common school which need analysis. What are its effects on other social institutions? How does it alter the social structure? Occupational opportunity? Political affiliations? All these changes have to be viewed in the light of the prevailing determinants.

FUNDAMENTALLY the interests of the scholar and the administrator coincide when practical present-day problems are faced. Increasingly there are problems which are common to the world, or at least to large cultural areas. Some might be regarded basically as educational, others as more social in character. Thus in Europe much attention is directed to the possibilities of setting up common schools to which all adolescents from particular geographical areas would go irrespective of academic attainment. In Afro-Asian countries one of the pressing problems is to re-organize education so that at one and the same time the economic, social, and political aspirations of the

nation might be achieved democratically. Thus, since the Second World War, great attention has been directed to the establishment of universal or mass education. It has perhaps been assumed rather unwisely that "fundamental education" or "basic education" would suit the needs of all underdeveloped countries. At the same time policies relating to the organization of technical education have tended to ignore the fact that some countries in the world are passing through their second industrial revolution while others are at the moment entering upon what is virtually their first. There has also been, understandably, a great desire to re-educate the defeated nations. This placed emphasis, rightly, on the need to relate education to the promotion of a democratic society. Indeed everywhere anxiety has been felt about the possibilities of making democracy work, and of inculcating in man a love of peace. Of course all these issues, if our previous analysis is correct, are closely interrelated, but it is depressingly clear that very few of them seem to have been solved successfully.

It would be wrong to blame the administrators for this. At the international, national, and local levels they have had to take action in very complex circumstances. The results have not always been those intended. Thus the post-war decentralization of administration in Japan tended to place the control of education in the hands of undemocratic forces. A policy of coeducation so antagonized some of the more liberal, democratically minded Japanese that they sent their children to private rather than public schools. Fundamental education has been shown to be of limited value and applicability. The fault has been twofold. There has been a tendency to imagine that if certain institutions, like decentralized administration, coeducation, and the common school, were transferred, certain objectives, like democracy, would be effectively promoted whatever the existing social configuration. The second mistake has been to assume that certain experiments, or pilot projects, could lead to universal panaceas.

What should now be clear is that administrators need a science of comparative education on which to draw. At the moment few people working in the field would suggest that there exists such a science. It is developing, but it is obvious that more attention should be paid to it so that its theoretical bases can be more firmly established and so that the data available for its practitioners can be more rapidly built up. If at present the possibility of reliable predictive hypotheses is remote, comparative education might help hard-pressed administrators to avoid some pitfalls and dangers of educational reform. At this stage of the world's history, when intercultural contacts are multiplying, there is more than ever a need to see the consequences of cultural borrowing and to improve intercultural understanding. To this worthy cause comparative education might make a contribution—however modest.

The Place of Introductory Sociology in General Education

By ALFRED MCCLUNG LEE

A Memorandum Presented to the Social Science Faculty of Brooklyn College

FOR more than one hundred years, general survey courses in social science have come and gone and have taken many forms in our liberal-arts colleges. The first wave of them was associated with the "social science movement" of the nineteenth century. Then came broad introductory courses in sociology. In recent decades we have seen a new wave of social-science survey courses.

From the observations and speculations of moral philosophers, historians, and philosophers of history, there gradually emerged a notion of society and of human groups as aggregates with characteristics sufficiently variable from society to society and sufficiently determinable and important to be studied. This idea was then linked with the magic associated with the terms and methods of the physical and biological scientists, and Vico in 1725 called it the "new science." Others labeled it social science, the science of society (Condorcet), and the science of man (St. Simon). In an 1836 essay, J. S. Mill noted this need for a generalizing social science. Calling it "political economy," he offered as synonyms social philosophy, social science, natural history of society, speculative politics, and social economy, among others. What Mill called "political economy" was then ordinarily spoken of as "social science," and "political economy" was narrower.

Between 1840 and 1890 there flowered in this country a social and intellectual development termed the "social science movement." This involved agitation for social and intellectual reforms, a popular controversial literature, college textbooks from about 1850 on, and the American Social Science Association of 1865–1909. The latter was the society from which arose directly or indirectly such powerful recent professional bodies as the American Prison Association, the National Conference of Social Work, the American Historical Association, the American Economic Association, the American Political Science Association, and the American Sociological Society. The chief historians of this change say: "With the absorption of the Social Science Movement into the other social sciences and the establishment of Sociology as its chief successor . . . the movement as such came to an end soon after 1900."[1]

[1]Bernard, L. L., and Bernard, Jessie. *Origins of American Sociology: the Social Science Movement in the United States.* New York: Thomas Y. Crowell Company, 1943, p. 6.

What killed nineteenth century "social science" as a separate discipline? Why did sociology appear and survive? How did sociology differ from "social science"? Is "social science" likely to come back again and stay with us? Why? The answers to these questions have considerable bearing upon the usefulness of introductory sociology in a general liberal education and for that matter upon the usefulness of introductory cultural anthropology, economics, history, political science, and social psychology. I shall therefore give my views in response to each of these questions before discussing more directly the place of introductory sociology in general education.

WHAT killed the "social science" courses of the 1850–90 period? At the risk of hashed metaphors, I would say that they died chiefly of this combination of diseases: an elephantiasis of data and theory, overtaxed and undeveloped digestive and assimilative organs, and reformist fevers. The latter appeared on the left, right, and in the center. To a large extent, academic "social science" was a battlefield in which teachers and writers were apparently far more occupied with actionist goals and with a struggle for the loyalties of their students than with the development of a dependable body of verified and verifiable theory. Even then, with a smaller literature available than now, but with less powerful community pressures toward like-mindedness, the data and theories of social scientists defied synthesis and representation within the limits of one integrated introductory course or course sequence. Even more than these substantial considerations, most of which persisted beyond the demise of "social science," however, that nineteenth-century discipline was killed by the growth of more tenable and viable alternatives to it.

As the "social science" movement disintegrated in the 1865–1909 period, not only did the group of presumably more specialized social sciences appear but also a healthy pattern of critical and integrative interaction became apparent among them. I would refer to all of these more specialized social sciences—rather than merely sociology—as alternatives to "social science." I say this because the "social science" movement and the subsequent interaction among social scientists have made all the more specialized social sciences of today distinguishable from one another chiefly for their starting points rather than for their bodies of data and theories. Rather than attempting to assault the whole body of "social science" head on, each more specialized discipline and subdiscipline came more and more to provide its own characteristic starting points, bases for motivating the students more directly, and ways of integrating social-scientific materials in relation to student interests. Economists discussing price phenomena can scarcely restrict themselves any more to so-called "economic" matters. They see price in relation to personal, family, and organizational behavior, social stratification, formal and informal patterns of organization and social control, political procedures and manipulations, historical tendencies, and even cross-cultural differences and similarities. Political scientists now relate the decision-

making processes of voters, legislators, judges, and governmental administrators to similarly ramifying considerations. Historians do not stop with careful siftings of documentary materials in order to reconstruct and to understand the significance of historical events. They draw upon their own comparisons with other events, their general knowledge of history, and also the apparently dependable theories of other social scientists—social psychologists, sociologists, cultural anthropologists, economists, and political scientists—in order to broaden their conception of what may have happened in some time and situation.

In a sense, that of being behaviorally the most general in its starting points and problems, sociology is the most direct successor to nineteenth century "social science," but sociology differs in marked respects from that predecessor, and it has other important antecedents. Even though Auguste Comte in 1835 gave a positivist baptism to a discipline he called "sociology" which resembled the contemporary "social science," twentieth-century sociology is not the inclusive attempt at synthesis represented by that older "social science." Our sociology deals, however, with many of the most central problems of interpersonal relations and thus contributes very heavily to social-scientific integration. It also brings together substantial efforts during the past century to meet the ancient need for a degree of conceptual integration among the vast and diverse theories concerning human interrelationships.

After other specialists had stripped away from "social science" such starting points and problems as those now ordinarily classified as economic, historical, individual, and political, sociologists found themselves in unstable possession chiefly of these starting points: interpersonal interaction, social organization, group characteristics and processes, culture and cultural change, human ecology, family phenomena, and social-welfare activities.

The constantly increasing utility of findings in these areas to economists, political scientists, psychiatrists, psychologists, and historians gives the impression that these specialists are being sociologized, but this merely depends upon one's viewpoint. At the same time, sociologists lean more and more upon economists, historians, political scientists, and psychologists for contributions to the sociological integration. Incidentally, in spite of its name, social psychology is admittedly the joint product of psychologists, sociologists, and cultural anthropologists; sociologists wrote the first textbooks and many subsequent books with that term in the title.[2] The close relations among sociologists and cultural anthropologists are apparent in the widespread existence of joint departments of the two subjects, the overlap between the fields, and the frequency with which students majoring in one field cross over into the other.

[2]Edward Alsworth Ross, a sociologist, was the author of *Social Psychology: an Outline and Source Book* (New York: Macmillan Company, 1908), the first textbook by that name. *See* Gordon W. Allport, a psychologist, "The Historical Background of Modern Social Psychology," Chap. 1 in *Handbook of Social Psychology* edited by Gardner Lindzey (Cambridge, Mass.: Addison-Wesley Publishing Company, Inc., 1954)—two volumes, with authors drawn from among psychologists, sociologists, and anthropologists, and especially the works they cite, show again the overlap of these three disciplines in social psychology.

WHY did sociology appear and survive? It appeared because no other social science accepted as its primary problems the nature of interpersonal relations, group characteristics and processes, culture, and social organization—no other, that is, except its affiliate cultural anthropology and its joint offspring social psychology. How does sociology differ from the older "social science"? Sociology does not pretend to be an inclusive social science; it is a social science concerned with certain central and general problems of interpersonal relationships. Sociology has also replaced the polemics of the older "social science" with the calmer and more systematic scientific procedures which have brought it respectful acceptance.

Is an inclusive social science likely to come back again and stay with us? Unless a detailed social philosophy should gain acceptance as the orthodox one of our society, I would look upon such an inclusive integration as something far in the future. There is still much too much that we do not know about human society. Even though interdisciplinary communication in the social sciences is constantly improving and yielding integrative results of a valuable sort, students and society as a whole gain from the existence of many different disciplinary windows through which to see the complexities of evolving human society. We have in certain colleges and universities social-science survey courses, and I assume that they will continue and perhaps thrive, but if we were to carry this sort of thing much further, we would merely be admitting that our existing courses in the social sciences are narrow little pigeonholes rather than the windows upon human society that they should be. If a professor of sociology and anthropology or economics, of history or political science cannot help his students toward more integrated and satisfying conceptions of American and of human society, it would mean in my estimation that that professor has no such conception himself. I do not mean that the student should accept a single predigested conception of society from a professor or that social-science professors should agree upon such a single conception. Professors should be well informed concerning our evolving society and human society generally. Such knowledge is indispensable to a teacher of any given social-science course, no matter how specialized. Only from such professors are students likely to gain stimuli to develop their own integration.

In my estimation, there are three principal reasons why we have freshman social-science survey courses in many colleges today. These are:

1. Sociology is a relatively late arrival in higher education, and it has had a struggle for recognition which confronted sociologists with many difficult decisions. To gain respectability as "scientists," they often thought they had to eschew theoretical integrations and interpretations similar to those labeled "philosophy" or "history." This and the entrenchment of older disciplines in the freshman year kept sociologists in most cases from gaining acceptance for a freshman-level course in their subject. They also at times tried to become so rigidly statistical as to destroy the utility of even their introductory course for Sophomores other than majors.

2. Young social scientists in other disciplines have seen in social-science courses ways to broaden their own intellectual horizons and to break out of a tradition-ridden departmental strait jacket. Some call this a sort of "academic imperialism."
3. Certain administrators have wisely recognized a need for closer and more continuing relations of students with teachers during the freshman year. By providing this in the form of small year-long classes in physical and biological science, social science, and literature and composition, they have at times been able to reduce the dropouts of capable students to a gratifying extent, a notable accomplishment. This has certainly been the experience at Brooklyn College, to mention but one.

At any rate, we in sociology are happy to see the extent to which present social-science survey courses for Freshmen are structured upon the outlines and materials of typical American introductory courses in sociology.[3] Sociologists, anthropologists, and social psychologists should all feel a sense of accomplishment in this recognition of their contribution.

There is an important reason why social-science survey courses should be taught by social scientists from the existing departments rather than by a special departmental faculty as at some colleges. It is also a reason for regarding with caution any move to expand social-science offerings. Students in our colleges and universities have gained immeasurably through the employment of subject-matter specialists as teachers rather than the development—as in our high schools and many separate junior colleges—of a profession of educational specialists. We are primarily economists, historians, political scientists, psychologists, social anthropologists, and sociologists who teach. We continue to do other appropriate professional work and to have other professional associations and prestige in our specialties. We are not merely hired hands of colleges and universities who know enough about a subject-matter specialty and about teaching techniques to keep students somewhat occupied. It is this professional identification which makes it possible for our institutions of higher education to draw as high a type of personnel as they do in spite of the increasing enticements of the nonacademic world. Many of us would leave the academic world as quickly as possible if we had to work under conditions comparable to those to which American high-school teachers and professors in separate junior colleges are now customarily subjected. A separate department of social science built around a one-year course is a step in that direction, as it usually works out. That tendency happily appears in relatively few colleges of arts and sciences.

AND now to my final point: What does an introductory course in sociology have to offer to a student as part of his general college education? Anything I say in response to this question is not intended to exclude contributions of other social-science departments to a student's intellectual development. Quite the contrary. I urge all majors in our department of sociology and anthropology, as do my colleagues, to take

[3] *See* the topical analysis in the volume of the "College Outline Series," which I edited, *The Principles of Sociology* (New York: Barnes and Noble, 1957), pp. xiii-xxiii.

at least one course and preferably more in each of the other social-science departments. The contrasts in viewpoint, method, and concern are most stimulating to them.

As a typical syllabus of a good introductory sociology course would indicate, its chief foci usually are: culture, personality as a social phenomenon, social structures and processes, interrelations among the social sciences as illustrated by an analysis of social institutions, and social change. These have long been basic concerns of sociologists, and their findings are penetrating the other social sciences. Culture is so central a conception that the social sciences are sometimes called the cultural sciences, and we are learning more and more about this fascinating theory and its applications. Sociological concern with personality has done much to bring about the emergence of "interdisciplinary man" as a replacement for "economic man" and "political man." A knowledge of social structures and processes can help students to understand better the relations among appearances and other realities, the nature of social pressures, and the interrelatedness of human society. I have already mentioned the intimate interconnections of the social sciences, and in the introductory sociology course the study of economic, political, religious, familial, and other institutions makes this clear to the student. And the integrative contributions of sociology to a knowledge of social reorganization and control, of social manipulation, of cultural change, and of social problems are becoming assimilated into the intellectual life of Western man and require the attention of college students.

In teaching this course, instructors place considerable emphasis upon the nature of scientific investigation in sociology, upon contrasts between folk knowledge and verified and verifiable sociological conclusions, and upon the relative merits of speculation and of generalizations based upon observation. In doing so, we also attempt to stress the tentative and imperfect nature of contemporary sociological findings even though they have demonstrable advantages over folk knowledge or speculation.

The student is thus able to see something of how the sociologist, social psychologist, and cultural anthropologist carry on their researches. He gains new perspectives upon social problems and learns how social scientists are helping us cope with them. He gets an impression of how sociologists borrow and contribute at their crossroads of intellectual endeavor to other social scientists.

Through such an introductory course, the student is able to bring himself more directly to grips with the personal, group, and societal forms and processes. These are the settings of economic and political phenomena and problems, of the individual, and of the historic sweeps of events. In being introduced to such central aspects of society, the student then begins to get glimpses of the personal and social applications of the sociologist's findings. Sparks struck in a good introductory sociology course can inflame a student's curiosity to go on in many possible directions whether in or out of what is formally called sociology. It is in these manners that sociology is enriching the general education of many a college student.

Socio-humanistic Studies for American Engineers

By EDWIN J. HOLSTEIN

"The engineer's work . . . should be so nearly play to him . . . that it will need no admixture of sweetening ingredients."[1]

MUCH has been written during the past half-century about the rôle of socio-humanistic studies in engineering education. Since the Second World War numerous articles in professional and popular journals have spoken in both dismal and glowing terms about the breadth of the engineer's education. This article attempts to bring the problem of liberalizing the education of the engineer into perspective in two ways: first, by calling attention to the long-term trend away from socio-humanistic subjects in the engineering curriculum, and second, by describing the skeptical nature of some engineering attitudes toward these studies which may account in part for their decline.

Four major factual studies show that socio-humanistic, as well as scientific and mathematical, studies have been reduced in importance in the American engineering school over the past century. For instance in 1917, Charles R. Mann reported that during the preceding fifty-year period the average percentage of curricular time devoted to socio-humanistic subjects declined from 27 to 19 per cent. Science and mathematics content also declined from 32 to 29 per cent, while technical work climbed from 41 to 52 per cent.[2] Similarly, the Wickenden Report, which studied the curriculums of ten "influential" engineering schools, indicated that between 1870 and 1923 socio-humanistic studies declined in importance from about 28.8 per cent to about 16 per cent—this percentage included 4 per cent undesignated electives, many of which may not have been truly "liberal." During the same period mathematics and science fell from 35.5 per cent to 30.5 per cent and technical subjects climbed from 35.7 per cent to 53.5 per cent of total time.[3] For convenience the "academic year" units of this study were converted to percentage figures. Studying the same schools eleven years later, Dugald C. Jackson found a continuation of this trend in the three major types of engineering curriculums.[4]

[1] Raymond, William G. "The Scope of an Engineering College," *Proceedings of the Third Annual Meeting* [of the Society for the Promotion of Engineering Education], Vol. III, 1896, p. 69.

[2] "Report of Joint Committee on Engineering Education," *Proceedings . . . of the Society for the Promotion of Engineering Education* [S.P.E.E.], Vol. XXV, 1917, p. 201.

[3] Wickenden, W. E., Director of Investigations. "A Study of Evolutionary Trends in Engineering Curricula," *Report of the Investigation of Engineering Education 1923–1929*, S.P.E.E., 1930, Vol. I, p. 532 (Fig. 6).

[4] *Present Status and Trends of Engineering Education in the United States*. New York: Engineers' Council for Professional Development [1939], pp. 120–24.

That this long-time trend has not been reversed is strongly suggested by two comprehensive studies conducted in 1941 and 1954. In 1941 Richardson H. Rowntree, supervisor of economics for engineers at Ohio State University, reported a catalogue study of forty representative engineering schools—a sample of about 25 per cent of all engineering schools. His conclusions confirm this general lack of attention to "nontechnical" engineering education and are summarized as follows:

> . . . Judging on the basis of this sample, we may conclude that on the average engineering students in American universities devote 16 per cent of undergraduate time to "non-technical" subjects of which two-fifths is given to English and one-fifth to economics.

He cautions that the representative nature of such averages is open to question since the range in percentages varied from 0 to 27 per cent.[5] Rowntree reported also that smaller schools tended to devote a somewhat larger average percentage of time to "nontechnical" work than did larger schools (16.9 per cent as opposed to 12.1 per cent).[6] He reported further that five-year courses and four-year industrial engineering courses were most liberal (about 26 per cent "nontechnical") and that mining engineering was least liberal (about 9 per cent "nontechnical").[7]

The 1954 study, more comprehensive with respect to number of schools included, but covering mechanical engineering only, reported that the engineering content in 112 of these curriculums claimed 56 per cent of total time; science and mathematics claimed 26.2 per cent; and the socio-humanistic stem was left with 17.8 per cent.[8]

It is not reasonable to conclude, however, that this decreasing emphasis on socio-humanistic subjects was due wholly to deliberate intent on the part of engineering educators. Science, mathematics, and socio-humanistic studies were often used to "fill out" technical curriculums, and under the pressures of increasing technical subject-matter, engineering education followed the path of least resistance. Yet, if the engineering educator must be judged on this matter, it can certainly be said that some took considerable pride in this trend.[9]

For almost a century, therefore, pressures on the engineering curriculum have been relieved by moving in the direction of practical and professional courses and away from the theoretical and liberalizing courses. Even allowing for considerable difference of opinion as to how to classify certain subjects (and the figures indicate some) the conclusion is inescapable that no *real* resurgence of socio-humanistic studies in the American engineering school has occurred.

AN examination of all the causes of this decline in emphasis on nonengineering subjects is beyond the scope of this brief treatment. It can

[5] "The Present Status of 'Non-Technical' Engineering Education in American Universities," *Journal of Engineering Education*, XXXII (November, 1941), pp. 215–23 (esp. p. 222).

[6] *Ibid.*, p. 222 (Table IX).

[7] *Ibid.*, p. 217 (Table III) and p. 219 (Table VIII).

[8] Sanders, Jennings B. *General and Liberal Education Content of Professional Curricula: Engineering.* Washington, D. C.: Government Printing Office, 1954, p. 26. (U. S. Department of Health, Education, and Welfare, Pamphlet No. 114).

[9] *See* for instance Milo S. Ketchum, "Essentials in Engineering Education," S.P.E.E., *Bulletin*, IX (October, 1918), p. 49.

be established, however, that throughout the past seventy years various hostile attitudes toward socio-humanistic studies permeated the thinking of many engineers and their teachers.

Even those who thought that engineers ought to be more liberally educated were hesitant in the sense that they wished to exclude such studies from engineering curriculums and to relegate them to the preparatory school or liberal-arts college. Typical 1887 opinion held that

> . . . the standard admission to technical schools should be raised especially in the department of belles lettres, in which now, next to nothing is required. . . . These subjects are out of place in a special school for technical education.[10]

Indeed, in 1895, William G. Raymond, a professor of geodesy and railroad engineering, maintained that

> . . . the engineering college . . . [as well as other colleges] may profitably lower their requirements for admission in mathematics and raise them in language and literature, history and sociology, compelling the preparatory schools to meet the changed requirements.[11]

Aside from this isolationist attitude there are evidences of a more active distrust of socio-humanistic studies. This attitude manifests itself in a number of ways. For instance, an occasional statement implies or expresses a fear that exposure to socio-humanistic studies might enervate the engineer. Such an opinion was held in 1895 by Ira Hollis, an engineering professor. Speaking about the disadvantages of literary subjects for engineers Hollis remarked: "The student is also likely to find the tendency to books and the library very strong. This may be among the disadvantages, as a successful engineer is essentially a man of action."[12]

One substantial body of opinion denied that the traditional liberal-arts disciplines were any more "cultural" than technical subjects. Assuming that culture is a legitimate aim of engineering training, it was held that the various technical subjects already being taught provided a splendid means to this end. A good illustration of this kind of thinking is summed up in the following words:

> . . . Elementary shop work properly taught in an engineering college is largely a "culture" study. It tends to develop the mind through the hand and eye. It teaches the importance of accuracy and cultivates the habit of close attention.[13]

Another attempt to explain the decline of socio-humanistic studies advanced the argument that "culture" is mostly a matter of the teacher and not the subject at all. There is a hint of this idea in the phrase "properly taught" in the statement just quoted. But reliance need not be placed on hints of such an attitude since it was thus very tersely stated in 1918: "The humanizing and liberalizing value of any subject is in the teacher and is not in the subject."[14]

A few years later the same attitudes were neatly summarized by the Kansas-Nebraska Section of the Soci-

[10]Boller, A. P. "Civil Engineering Education Discussion," *Engineering News and American Contract Journal*, XVII (January 15, 1887), p. 37.

[11]"The Scope of an Engineering College," S.P.E.E., *Proceedings*, Vol. III, 1896, pp. 55–56.

[12]"Modified Requirements for Graduation of Students Who Have Taken Full Literary College Courses," S.P.E.E., *Proceedings*, Vol. III, 1896, p. 169.

[13]Kent, William. "Report of Committee on Requirements for Graduation (Discussion)," S.P.E.E., *Proceedings*, Vol. XIII, 1906, p. 226.

[14]Ketchum, Milo S. "Essentials in Engineering Education," S.P.E.E., *Proceedings*, Vol. XXVI, 1918, p. 31.

ety for the Promotion of Engineering Education in a memorial to a major board of the Society. The communication read in part:

> [We believe] . . . that this aim [orienting the student to useful membership in society] may be attained in good part by the effective presentation of engineering matter by our own teaching staffs.[15]

Still another opinion held that even though liberal studies were not required for entrance and even though they were not offered in technical schools, the graduates would, nevertheless, become liberalized; they would attain this desirable end themselves by independent reading and study after graduation. Such a hope was clearly expressed by Arthur J. Rowland in 1907 when he said:

> Give men a properly rounded course in engineering principles, built up on the science and mathematics which form a necessary foundation for such education, and their own natural ability will attend to the future.[16]

Much of the sometimes heated discussion currently taking place about the desirability of designing specially "slanted" liberal-arts courses for engineers[17] can be traced to another kind of attitude. It was not uncommon for an engineering educator to admit freely that engineering curriculums ought to be broadened, but to deny that adding traditional liberal courses to overcrowded curriculums would "turn the trick." Instead, this type of opinion insisted that special courses usually of more immediate interest and "value" to the engineer be offered. In this vein, in 1906 Anson Marston, a professor of civil engineering, could

> . . . see no reason why a study of engineering history might not have as much cultural value as the study of general history, nor why the study of railway administration might not be as valuable training as the study of some textbook on political economy.[18]

One further observation concerning attitudes toward socio-humanistic studies for engineers should be made. Evidently, many engineers resented the "monopoly on culture" which some academic people claimed. "We have been told that engineering studies and pursuits make man sordid and narrow," said Dean Calvin M. Woodward in the midst of a strong plea, in 1909, to regard engineering as cultural in itself.[19] Much of the engineer's attitude toward "cultural" subjects was, therefore, an attempt to prove that his work was really important—was, in fact, a "new culture."

William T. Magruder, professor of mechanical engineering, complained in 1909 that efforts "to broaden the course of study and to inject more culture into it have been met by

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[15] "Memorial to the Board of Investigation and Coordination," S.P.E.E., *Bulletin*, XIII (April, 1923), p. 537.

[16] "Technical Education with a View to Training for Leadership (Discussion)," S.P.E.E., *Proceedings*, Vol. XV, 1907, p. 241. For similar and contrasting views *see* comments of R. C. Carpenter and O. H. Landreth "Why Not Teach about Men, the Most Important and Difficult Tools an Engineer Uses? (Discussion)," S.P.E.E., *Proceedings*, Vol. XIV, 1907, pp. 221–22, 225–26. For an extreme and more recent view of this sort *see* S. F. Borg "Humanistic-Social Studies in Engineering Education—Another Viewpoint," *Journal of Engineering Education*, XXXVI (March, 1946), p. 424.

[17] *See* "General Education in Engineering," *Journal of Engineering Education*, XLVI (April, 1956), pp. 658–61.

[18] "Why Not Teach about Men, the Most Important and Difficult Tools an Engineer Uses? (Discussion)" S.P.E.E., *Proceedings*, Vol. XIV, 1907, p. 218.

[19] "Education for Utility and Culture," *Engineering News*, LXI (June 25, 1909), pp. 681–82.

Some Observations on the Evening College

By ADMA D'HEURLE

Need for Serious Inquiry Relevant to Basic Issues

ONE of the most impressive developments in American education since the Second World War has been the growth of adult education in general and the evening college in particular. So rapid has been this development, so obviously great have been the gains that many of the basic questions relevant to the nature of the adult-education program have been allowed to remain in the background of current educational thought. Adult-education foundations and such bodies as the President's Committee on Education beyond the High School seem to have directed their efforts toward the solution of the pressing problems of administration and organization. Relatively little consideration has been given to the philosophy of adult education, its nature and place in relation to the other segments of the educational continuum.

The widespread practice of self-study and stock taking which has overtaken education in recent years does not seem to have led to serious inquiry relevant to these basic issues. The administrator in charge of adult education, harassed as he is by the problems of enrollment and finance, finds little time for such "luxury." Most adult educators, pressed by the need for extra income from adult-education classes or carried away by the desire to serve their fellow men outside the ivory tower, have not lingered to question the nature and purpose of adult education.

A glance at the catalogues of a few representative university colleges of major universities throughout the country leaves no doubt in the observer's mind that the evening college is here to stay and that it is playing an important rôle in higher education today. Of some twenty university colleges surveyed, at least one-third equal (and in a few cases exceed) the mother institution in size of the student population if not in the number of faculty and library volumes.[1] A more thorough study of these catalogues reveals a great variety of course offerings and a preponderance of practical, "how to do" courses in the different fields of knowledge. The contents of the catalogues and the advertising techniques often used to sell these contents bring to mind the familiar mail-order catalogue. Inquiry into the nature of the criteria by which the educational offerings are determined is apt to show that in many cases the only

[1] *See also* Homer H. Kempfer, *School and Society*, LXXXV (January 19, 1957), pp. 22–23.

criterion considered is the presence of some half-dozen individuals who desire a certain course and are willing to pay for it and the availability of one who is competent to teach it. The more closely one examines current materials and activities that comprise the curriculum of the evening college, whether these materials and activities are crowned by "credit" or not, the more obvious becomes the need to determine the criteria by which any teaching or learning activity can be judged fit or unfit to be carried on within the university.

We are not here suggesting that an unchangeable set of principles can be determined and resorted to for an efficient, simple, and mechanical process of screening. What we wish to underline is the need for serious consideration of the measures by which an adult-education program of a university can be judged to be worthy of being called adult education and being part of a university. Such consideration, it seems to us, must begin with inquiry into the nature of adulthood and what makes the education of adults different from that of children and adolescents, as well as inquiry about the nature of a university and what makes university education different from that of other institutions such as the Y.M.C.A. or the business corporation.

INSTEAD of a comprehensive analysis of the "developmental tasks" of adulthood,[2] we shall consider only a few of the characteristics of the adult that are most relevant to the study of his education. In the first place young adults generally, and the adults who patronize the formal educational programs of a university in particular, tend to be of a pragmatic orientation, seeking knowledge for particular ends. The exact nature of the ends in view and the type of knowledge sought for their attainment vary. It may be a mechanical, a social, an intellectual, or an artistic skill that the individual desires to cultivate in the service of occupational advancement, social maturity, psychological security, or any number of perfectly respectable objectives. That the adult who is struggling to cope with the practical demands of his family, occupational and social rôles seeks the knowledge that can help him in meeting these demands is certainly most commendable. Whether, on the other hand, the university should be the dispenser of this purely practical knowledge is an entirely different question which must be considered in the context of the more fundamental question, What is a university?

The second relevant characteristic of the adult student can best be described as a syndrome of inflexibility, self-sufficiency, desire to confirm that which one has always believed to be true, lack of a wholesome untainted spirit of inquiry, pseudo sophistication often coupled with a degree of cynicism, and a desire to be entertained. The fact that such characteristics are more prevalent in the adult student population than in the child and adolescent groups needs no explanation. The forces making for the development of such traits are beyond the scope of our considerations here.

The relevant point is that the adult

[2] *See* Robert J. Havighurst and Betty Orr, *Adult Education and Adult Needs* (1956) and Gardner Murphy and Raymond Kuhlen, "Psychological Views of Adult Needs" (April, 1955, Notes and Essays on Education for Adults, No. 12). Both are distributed by the Center for the Study of Liberal Education for Adults, Chicago.

carries to the teaching-learning situation certain psychological traits that bear on the expectations of educator and student, and that such characteristics must be recognized in the planning and the guidance of the educative process. For it is in the nature of these traits in the learner to interfere with the "growth," "continuity," and "sequence" by which Dewey differentiates the educative from the miseducative experience.

The fact that the evening college is likely to attract adult students in whom such personality characteristics predominate should not overshadow the important fact that ideally the adult makes the best university student. The maturity which implies ego integrity and the possibility of a detached and objective search for knowledge constitutes a force that education cannot depend on in the high-school or early college years.

It is because the adult has found himself that he is capable of "comradeship with the ordering ways of distant times and different pursuits." It is at this stage that he is best capable of reaching out toward humanity at large. Only after the storms of adolescence have subsided and the pressing practical problems of young adulthood have come to some kind of settlement, is the individual free to engage in the search for truth for its sake, the search of the disengaged although by no means unconcerned.

Having noted some of the characteristics of the adult learner let us next ask what is the nature of the university. For the question must be raised every time the question of the evening college is raised—the question of what subject-matter, what teaching methods, and what organizational patterns best befit an adult-education program that is part of a university. A university, it must be remembered, has a great deal in common with other agencies that play a rôle in the formal or informal education of the members of the community; but an institution of higher learning also has distinct characteristics and specific functions that give it its *raison d'être* and set it apart as a unique organization which enjoys a special type of relationship with the local community and the organized society at large.

Looking at American education with a historical perspective we find with Buchanan that it "has always and everywhere been emergency education."[3] This has been true of the education of the Founding Fathers as well as that of John Dewey. The sensitivity and responsiveness of the American school to the social forces tapping on it from the outside is a fact well known to the student of education, and one that we need not be ashamed of, for in it lies one of the great virtues of American education. It must be recognized, however, that through this historical development modern educators have tried to forget that a university is not a servant of organized society but has been, and we here maintain must continue to be, a part of the "universal republic of learning, whose only authority was the truth as interpreted by reason."[4] The university should become neither a center for entertainment nor a service station for the traveler on the road of worldly success.

This plea for the independence and

[3]Buchanan, Scott. "Liberal Education and Politics," *American Scholar*, XIII (Autumn, 1944), pp. 396–98.

[4]*Ibid.*, p. 397.

autonomy of institutions of higher learning is not meant as advocacy of a safe and happy retreat from the world of action and practical affairs into the ivory tower. It is made with full cognizance of the need to put to use in the service of humanity the knowledge that is the heritage of the university, as well as the recognition of the value of firsthand experience and observation in the development of the theoretical systems of thought which the university nurtures. No dichotomy is posited between applied and useful knowledge on the one hand and abstract theoretical knowledge on the other. For is not the awareness of contradictions and conflicts in the concrete world of reality often, if not always, the first step in the construction of theoretical systems, which systems are further refined by their application to these practical issues? The plea for the citizen of the "republic of learning" is not to detach himself from the real, but to soar above the individual and practical treatment of the real to a scientific and philosophic treatment of the general and theoretical.

The university is not a guild and it is questionable whether there should be room in any part of it for the craftsman and practitioner who has no interest in, or understanding of, the principles basic to his art. It is disheartening to see how the widely sought after practical disciplines (basic education programs and great books courses notwithstanding) are cramping the speculative sciences out of the evening college. Were the leaders of higher adult education to turn briefly to the history of Western thought, they would be startled by the similarity of their popular programs to the ill-reputed tradition of sophist education.

It is perhaps with this question of the nature of the knowledge to be sought after in an institution of higher learning that the reassessment of the curriculum must begin. The fact that the armed forces, industry, and humanitarian organizations of all types are turning to the university for help in solving their practical problems, and the fact that they can sometimes pay generously for this help must not sway the educator away from the painful task professional integrity demands.

It is impossible to begin to consider a curriculum without running into the problem of standards. That there is a tendency for the standards of adult-education classes to be lower than those of comparable classes attended by regular college students, few persons with experience in this field would deny. But while this is a generally recognized fact little is done about it; here as elsewhere norms get confused with standards and the teacher and his adult students are tempted to judge the performance of an individual exclusively by comparison with the average performance of the group.

There seems to be something of a gentlemen's agreement among professors who teach evening courses to consider the difficult conditions under which many of their students work as enough justification for glossing over the low level of achievement. The after-war experience with GI students as well as recent psychological research have dispelled whatever suspicion may have existed regarding the capacity of the adult to learn. It is generally accepted that reasons for the lower standards in adult

classes lie primarily in such circumstances in the adult students' life as attending evening classes after a long work day, traveling long distances to come to class, and not having easy access to the library and other research facilities.

The main factors in the adult student himself that are recognized as impediments to the maintenance of high standards are inappropriate motivation and lack of mental discipline. The poor educational background and watered-down high-school education of which college instructors complain would not apply any more to the adult student than they do to those who entered college upon the completion of high school. It is true that the lapse of a few years away from formal education may be responsible for the loss of knowledge that was never fully mastered to begin with. What most teachers of adult classes, however, tend to complain of is not so much the poverty of the general educational background of the student, for one often runs into interested individuals who have read widely and assembled an impressive body of experiences and facts. The more serious concern of the educator here is with the lack of the techniques and discipline necessary for scholarship. Hence, it would seem important in planning the adult-education curriculum to provide more than a haphazard collection of scattered seminars on "how to study" or "how to read a book" for the systematic treatment of these deficiencies. If the regular college is finding it necessary to do an increasing amount of remedial work with its students, how much greater is the need for the institution in charge of adult college education! Whether the difficulty in maintaining standards lies in inappropriate motivation, the desire to amass credits, or to attain some other mundane objective without much pain or sacrifice; whether the problem is to be traced to a poor educational background, lack of mastery of the needed linguistic or mathematical arts, or lack of familiarity with the subject-matter; or whether it is the absence of mental discipline and proper work habits, the situation must be faced in true American style and something done about it, rather than continue to gloss it over in self-deceit, allowing the standards to depreciate while the enrollment continues to swell.

ONCE the adult-education curriculum is appraised from the point of view of its subject-matter and standards in terms of the nature of the adult student that it is planned for, and the university of which it is a part, this curriculum would require for the fulfillment of its aims methods of teaching and an organizational set-up different from those that are typical today.

In regard to methods, one would hope that there will be less of a need to entertain and that although the Y.M.C.A. advertises its offerings with "learning can be fun" or "learn while you play," the adult-college instructor would be freed from the pressure to make learning easy, free to determine his methods in terms of the matter at hand, assuming as much as any educator can, that the learner has real motivation to exercise his intellect in the search for truth. That the educator here must consider the nature of the learner as much as the kind of material to be learned, no one

would question. What is questionable is whether the adoption of educational methods should be based on the need to lighten the work for a student tired before he begins, or on the need to provide a social hour for one whose loneliness drives him to an evening class.

A knowledge of the principles of individual psychology and group dynamics that relate to motivation, learning, and retention is certainly a great help in teaching. Such knowledge is put to good use only when it is harnessed to realize the ends of education—to bring about the desired learning. The era of "group dynamics" and "great books discussion leadership" has left its imprint on the methodology of adult education. Tradition has it that a good adult educator is a good group leader. What the leadership is used for and what the group is moved toward are becoming secondary questions. You must not lecture too much, dictates this tradition, or else you are "authoritarian"; you must not put an end to rampant discussion or else you will be labeled "directive."

To criticize current methods is obviously much easier than to give a positive statement of what methods adult education must use. Not only is the latter task difficult but, it would seem to us, impossible. Should not the method ideally depend on the nature of the learning task, the learner or group of learners as well as on the teacher? It seems proper in this context, therefore, merely to bring out the need for adult education to free itself from the stress on method as an end and to concentrate on the search for the proper methods in relation to the variables involved in the particular learning situation. Only if adult education is conceived as a particular brand of entertainment or therapy can it be said to have its unique and proper methods which are good for all adults with all teachers at all times.

ANOTHER aspect of adult education which requires serious consideration if the evening college is to find its place in the university and the community is its organizational pattern. It is hardly imaginable that the present status can begin to improve without the kind of organization which will make possible the co-operation of the faculty in the planning and execution of the program. It is rather surprising that with the extreme sensitivity of the modern mind to nondemocratic practices in different areas of life, so much in this domain is delegated to a few executives.

What a more democratic type of administration would involve is for each institution to determine for itself. In some cases where the majority of the staff are on a part-time basis waiting to step into something bigger or trying to supplement a poorly paid full-time teaching job elsewhere, it may require a basic change in the nature of the teaching force itself. In other cases the change may have to begin with the administrators at the top. In all cases good administration would involve the provision for free communication among administrators and faculty members and faculty members among themselves, not at the social level where they can meet for five minutes over a cup of coffee, but at a professional

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Faculty and Morale

By REX V. CALL

Similarities between Personnel Management in Business and Collegiate Institutions

COLLEGES and universities are losing many competent teachers to industry. Compounding the teacher shortage is the fact that students are not going into teaching in sufficient numbers to fill the demand. Teaching as a profession does not seem to have the attractiveness necessary to draw enough likely individuals to fill the present, let alone future, needs. The resulting problem and the one dealt with here is, How can administration keep the faculty that it has?

Many business executives and most good textbooks in the field of management point out that a "man's loyalty to a job or to an organization is determined by how he feels about that job or organization." In other words, loyalty is somewhat in proportion to morale, or to attitude on the job. An acceptable definition of good morale is "a mental condition which leads individuals and groups willingly to subordinate their personal objectives, temporarily and within reason, to further the successful achievement of the company's service objectives." A faculty member whose morale is relatively good will not only be inclined to remain in teaching and with the present institution, but will also be willing to accept and execute directions, conform cheerfully to reasonable discipline, and give his best efforts without the pressure of authority. How is this ideal condition to be achieved?

When the faculty member is assured that his personal objectives can be reasonably satisfied by continuing in his present position, he will stay. Of course, this cannot obtain at the expense of the objectives and goals of the institution; there must exist an integration of interests for both the individual and institution to benefit. The goals of each faculty member are different or, at least, they occupy places of varying importance in the mind of each individual; for example, one professor may hold rank above income or other benefits; others may want security, prestige, chance for advancement, cultural association, or freedom of work schedules. Each must realize to his satisfaction some measure of these desires in order to be included among those whose morale is high, and in order to willingly subordinate his personal desires in the short run to the objectives of the institution. In order for the individual faculty member to reach a proper state of morale, there must be present in the work environment evidence that the institution will help him to reach his personal goals. Only by careful attention to each one's work situtation, as

it differs from those of his colleagues, can satisfaction be achieved. A periodic review will be necessary to spot significant changes or emphasis.

Any general method of attack must have as its objective the isolation of the fundamental factors which affect morale. In general, any factor that affects the relationship between organizational objectives and personal objectives will in turn affect morale either positively or negatively. The following are morale factors which apply to a business organization, but the academic administrator should have little trouble in translating them to his own situation:

Worth-while objectives that are compatible with the public interest as well as the personal interests of the organization's members
Good leadership based on a sound philosophy of management
Homogeneity of group characteristics and interests
Symbolism, and a degree of identity of organization and personal interests
Decentralization and the delegation of responsibility and authority
The techniques used for handling men, including those for order-giving and disciplinary action
Individual and group opportunity, including financial and nonfinancial incentives
A satisfactory physical work environment
Training, education, and indoctrination
Organizational confidence based on equity as well as material success[1]

Other lists of morale factors[2] have been compiled showing differences of opinion. Any administrator can devise his own list. The important thing is an understanding of the existence of morale factors and an analysis of the particular situation so as to determine objectively the significant factors that must be taken into account.

THE importance of objectives for a business concern or an educational institution is self-evident, but it is not so apparent that these objectives not only must be acceptable to the community, but must foster the belief throughout the organization that their accomplishment is necessary for satisfaction of personal objectives. This calls for honesty and integrity on the part of administrators. Action to attempt to better the lot of teaching personnel is essential for leaders of institutions desiring high morale. Emphasis also on the cultivation of intangible or psychic values necessary for academic people is important. An attempt to substitute them for tangible income, however, is not successful in industry, and there is no reason to suppose that it is any more feasible in the academic institution.

The importance of good leadership as a morale factor is better recognized in industry than in the academic profession. One sad commentary on the latter is that many academic institutions fail to practice what they preach. On the one hand, management courses in business administration advise industry (*via* the students) that the best workers or those having seniority may not make ideal supervisors or executives. On the other hand, academic institutions fail to use this same logic in the selection of administrative personnel. All too

[1] Davis, Ralph Currier. *The Fundamentals of Top Management.* New York: Harper and Brothers, 1951, p. 558.

[2] A list given by Thomas Spates, vice-president of General Foods Corporation, before the Society for the Advancement of Management (December 6, 1946) is quoted by Ralph Currier Davis, *op. cit.*, pp. 557–58.

often seniority is the sole criterion used to select administrators. Because the true executive must be able to persuade people to work enthusiastically and co-operatively, the principal responsibility for bringing about an integration of interests is his. Department heads, deans, and administrators in general should be selected using not only the criteria of academic accomplishment, seniority, and age, but also certain qualities of leadership. The latter are of greatest significance, if morale is to be developed and maintained.

Achievement of organizational homogeneity depends upon an understanding of basic sociology—how people interact in groups. Developing and maintaining morale is accomplished most easily when there are common backgrounds, objectives, ideals, and philosophies. Care must be taken to divide faculties into groups not only along organizational lines, but also along the lines just mentioned, so that bonds of understanding may be more easily developed. Administrators often attempt to group together all types of employees so that the morale of the clerical and lower-paid employees will be improved, thereby increasing the effectiveness of all. They fail to realize that "improving the morale" of the one group comes only at the expense of the morale of the other. Faculty members must be treated as faculty members and staff functionaries as staff. There is no attempt here to make a dichotomy based on a "holier that thou" concept; rather the attempt is to point up the necessity of recognizing the real, tangible distinction between "line" personnel and "staff" personnel in academic institutions. It is important in a business concern to recognize this distinction for reasons of economy and efficiency in matters dealing with delegation of authority and responsibility, as well as in matters of morale.

SYMBOLISM is a morale factor because through symbols an individual sees concrete evidence of objectives, ideals, and traditions which are difficult for him to reason out logically. As man is probably more emotional than he is logical, it is altogether possible that his attitude toward his job, that is, his morale, will receive positive impetus by having some tangible symbol to which he can tie his loyalty and enthusiasm. Symbolism has not been highly developed in business, and some readers may feel that the intellectual college professor is too sophisticated to be easily swayed or influenced by symbols. It is the writer's opinion that as long as professors are people they will respond to symbolism if intelligently applied.

Proper decentralization of authority and responsibility is vital in creating in an organization that feeling of belonging. While there are those who would argue that the opportunities for delegation are fewer in academic than in business organization, and that those in the profession resent responsibilities other than those imposed by the classroom, it is nevertheless the observation of the writer that many opportunities for delegation are being ignored either because of empires built by incumbent administrators or because of ignorance concerning this principle. Proper delegation of responsibility and authority

not only aids morale by inculcating the feeling of belonging, but also fosters the exercise of initiative and creativeness which is so important to many individuals, even college professors.

While security may be a rather elusive term, it is used here to indicate the desire of the individual for academic freedom, a permanent source of income, and sufficient retirement income. Tenure provides security on the one hand and an adequate retirement system on the other. Although tenure at a certain status and after so many years of service is common in some institutions, it is for all practical purposes nonexistent in others because of legal restrictions imposed by state statutes. Where such is the case, pressures must be brought to change laws so that security of tenure, such as it is, can be realized. Certainly the peace of mind that comes with tenure, both as to security on the job and to freedom of speech, should be characteristic of the teaching profession. A man is not capable of his best efforts in a profession that calls for mental exploration into unknown areas when he must constantly weigh each word and action for fear that those who could influence his job termination might not agree with his ideas or philosophies. Progress comes with free expression and this must be preserved at any cost.

The need for an adequate retirement system must be recognized if college teachers are to remain in the profession. Industry is providing these benefits for its members and the more enlightened colleges and universities are doing what they can to parallel the program of industry. Other institutions, however, are reluctant to make even satisfactory overt attempts, due either to political pressures or to outdated and outworn philosophies. This results in a feeling of insecurity and frustration on the part of the faculty members. Good retirement systems, calling for properly funded programs which supplement Federal Social Security, must be immediately forthcoming not only to keep faculty personnel in the profession, but to keep them from gravitating to those institutions that have been farsighted enough to make such provisions. It is becoming more apparent that institutions which do not have an adequate retirement system will encounter greater difficulty in their attempts to recruit new faculty members and administrative personnel.

Provision for the professional growth of their faculty personnel must concern colleges and universities. One constantly listens to top administrators harangue faculties for "more research, more writing, more evidence of professional growth." Yet, at the same time, these administrators are bent upon increasing the student-teacher ratio, teaching loads, number of preparations, and committee assignments of the faculty members. In most cases, no provision is being made to lighten loads. It would seem that the long-range enlightened practice would be to provide free time and facilities to encourage professors to pursue research, thus benefiting themselves and the university. As an illustration, provision should be made for the members of the faculty of the college of business administration, who desire it, to have one or two free days during

the week to pursue consulting work with industrial firms. Three benefits would result: First, it would enhance the income of the professor, so badly needed in these times. Second, it would provide knowledge and experience which would enrich immeasurably the classroom lectures of the professors. Students have great admiration for and confidence in the teacher who can back up the textbook with practical applications. Third, it would provide the research material which is so vital to intellectual progress, not to mention the benefits to industry itself.

Other factors could be mentioned which are part of this general problem of maintaining the strength of our present faculties. Some administrators in responsible positions are searching for ways and means for its solution. Others, it is feared, are not yet facing the problem. Academic institutions should intelligently and scientifically find suitable answers before the pressures of the situation become too great. From the present vantage point it appears that in the next few years we will envisage a gradual shifting of teaching personnel to those institutions that offer not only the greatest financial remuneration, but also the security and mental satisfaction that attends the working situation where an enlightened personnel policy is part of the guiding philosophy.

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Educating Superior Students

By J. HENRY LANDMAN

SOCIETY can be served best by educating every individual to his maximum personal capacity. In a democracy, however, unlike economic, social, and political privilege, the degree of individual acquisition of education and enjoyment of learning and culture is much more limited by the person's native intellectual endowment.

In the nineteenth century, the four-year high school and liberal-arts college served adequately the needs of the small, wealthy middle class in society, when upon graduation youth entered careers in business or politics already prepared for them by their parents. Since the turn of the century, the secondary-school population has increased manyfold due to the widespread wealth of the American population, compulsory school attendance, child labor laws, and industrialization.

From 1890 to 1950, the elementary-school enrollment increased from fourteen million to twenty-two million, an increase which practically coincided with that in the comparable age population of our country. During the same period of time, the secondary-school enrollment rose from three hundred and fifty thousand to six million, representing an increase of 1685 per cent, while the comparable age population was augmented from five million to eight million youths, reflecting an increase of only 57 per cent. Concurrently, the enrollment in institutions of higher education

jumped from one hundred and fifty-six thousand to two million five hundred thousand or 1696 per cent, while the comparable age population increased from five million to eight million or only 74 per cent. By 1960, the student population of our country is expected to increase by 50 per cent over the 1950 level.

Historically, we adopted the British liberal-arts course of study for the high school and college, with emphasis on Latin, mathematics, literature, and the like. It was intended primarily for a life of leisure and culture. It was never expected that this liberal-arts curriculum would provide students with knowledge that they could commercialize. Nevertheless, we are socially and economically much more democratic than England. Our high-school curriculum of today has become very much enriched. It now emphasizes more than ever before the social and natural sciences. To meet the diversified needs of the students most of our secondary schools are comprehensive in nature, embracing students pursuing college-preparatory and vocational programs—a heterogeneous group of varied degrees of native endowment, of general interest, and of motivation. Worse still, teachers have directed their attention to the students with least interest and with minimum endowment of intelligence, leaving the normal and superior ones to fend for themselves. The comprehensive high school with its heterogeneous population complicates the problem of providing the best educational program for every youth.

Prompted by the notion that the liberal-arts education is the earmark of the aristocrat, the masses who are overrunning our high schools will soon heedlessly swamp our liberal-arts colleges as they have swamped our business, engineering, and similar vocational institutions. Regretfully very many of them will ultimately despair over the fact that their liberal-arts learning has little commercial value, and those who continue their studies toward a profession will grieve over the fact that their professional careers are deferred a number of years to their personal and, it must be admitted, economic loss.

The lowered scholastic standards in the high schools have been corrected in part by segregating students into groups of relatively equal native intelligence, housed within one schoolhouse. Presumably the quality of instruction for each group is maximized by its own capacity. This virtue, however, is counteracted by the social and emotional conflicts brought about by such group segregation. Therein, the bright and the dull suffer differently but in equal degree. Furthermore, the extra-curricular activities of these schools which involve the entire student body, such as school assemblies, dramatics, clubs, and the like, must perforce be reduced in intellectual quality to appeal to the students of lowest intelligence.

The liberal-arts colleges are in a worse intellectual predicament than the high schools. While the college entrance examinations are intended to select desirable candidates, the liberal-arts colleges already show evidence of lowered standards because of the mediocrity of their student bodies. Either these examinations are not foolproof, or geographic distribution, favored private and public secondary schools, and high-school

marks are faulty determinatives for admission to college. Not only do the scholastic standards of the secondary schools vary from one to another, but also the new pedagogy encourages high-school teachers to promote unworthy students rather than to cause them to repeat subject courses, and to inflate their marks so that students may attain an eligible average for admission to college. It appears that the high-school average mark of 85 per cent today is equivalent to the bare average passing mark of 60 per cent of the previous generation.

It is anticipated that the quality of students in liberal-arts colleges of the next decade will become affected. There is no segregation today according to intelligence or aptitude of students in the colleges as in the comprehensive high schools with all of the latter's defects.

The American public must learn that its children are endowed with different intelligences and that their potentialities for maximum educational development are limited without stigma by their endowments. It must realize that the textile engineer, the violinist, and the secretary perform valuable services to society, that they are therefore interdependent, and that they have superior inheritances of a kind that are mutually exclusive. It must acknowledge that the heterogeneity of students in hybrid schools and colleges only handicaps the educational, social, and emotional progress of all students to the detriment of themselves and society.

It is our bright students, the potential scientists, scholars, and statesmen of tomorrow, who are particularly penalized by our deplorable educational system. Consequently, our society at large is deprived of their maximum contributions. Many more millions of dollars are expended by our citizens annually for the education and care of the idiots, imbeciles, and morons, who undoubtedly are deserving of this special treatment, than for the offsetting minority of the superior students. What a travesty on our educational system!

THE solution to the maximization of the mental training and education of the superior student lies in the establishment of special educational institutions for his welfare and that of society. The comprehensive high school and college have the virtue of teaching students to fraternize in their miniature world despite their social, economic, and hereditary differences. Unfortunately, such a schoolhouse does not exploit the maximum capacity of the bright student, to the detriment of himself and of society.

Such bright students do not require the protracted training of eight years in elementary school, four years in secondary school, and four years in college, necessitated by the slow thinking and inadequately motivated subnormal and normal students. Educators have come to realize that progressive education has contributed much to the development of the subnormal and normal students. Unfortunately, it has neglected the superior students with the consequence that the comprehensive high schools and the liberal-arts colleges have become intellectual flophouses.

The Fund for the Advancement of Education, financed by the Ford Foundation, is conducting controlled experimentation for bright students

with already hopeful results. Yale, Harvard, and Columbia among others in a group of twelve universities are now admitting qualified non–high school graduates to their freshman classes. Another group of twelve universities is admitting accelerated high-school graduates to advanced college standing. These bright students would otherwise be hibernating intellectually because of the retardation brought about by inadequate secondary-school training. They are even permitted acceleration for college graduation if they are equal to it. Such educational practice solves the problem but creates another in its wake, and the two equate one another. While it teaches all intellectual groups to fraternize in preparation for the world they will ultimately live in, it intensifies the personal, social, and emotional aspects of the intellectual differences.

The true solution to the problem of educating some of the truly superior students is to establish special high schools and colleges for them. Such homogeneous institutions of learning would eliminate the social and emotional conflicts of the comprehensive institutions. They would permit the superior students by their exclusive classroom and extra-curricular activities to develop greater intellectual acumen and acquire greater scholastic accomplishment. However, the mistaken notion would have to be eradicated that such institutional segregation based only on native intelligence but not on race, color, creed, wealth, or social class is undemocratic.

There was such a three-year high school for bright students in New York City, called Townsend Harris Hall but, after a glorious history of 95 years, the school was abolished in 1942 to effect economy—to the shame of the City of New York and to the cause of liberal education. Dr. Jonas Salk of anti-polio fame, Supreme Court Justice Felix Frankfurter, and the elder statesman Bernard Baruch are a few of its many distinguished graduates. Let us restore it and establish many more like it throughout the country. It is desirable that some of the liberal-arts colleges imitate this worthy model.

The wasting of the intelligence of our country is pointedly emphasized by Homer Dodge, former president of Norwich University in an address before the students of Worcester Polytechnic Institute after a visit to the Soviet Union: "Russia recruits intelligence into its educational system as vigorously as leading institutions of this country recruit their athletes."

· *With the* · Technicians ·

Economics and the Journalism Student[1]

The study of economics is becoming an increasingly significant factor in the education of college students aspiring to a career in journalism or its cognate pursuit, communications. Indeed, persons in high schools and colleges charged with guiding young people in their career choices must take care to determine the individual's interest in economics and the other social sciences before adjudging him a worthy prospect for a career in communications.

Journalism has long been allied with the study of rhetoric and composition, and some myopic observers have traditionally regarded it as a stepchild of English. In truth, English for the most part is but a tool, albeit an important one, for the communications specialist. Looking at the more substantial aspect of content, the student interested in journalism has historically turned to those subjects that have come to be regarded as the social sciences. In recent decades, he has discovered that correlation and integration between the social sciences and journalism is entirely feasible and that he is thereby enabled to build a fund of knowledge most useful in the pursuit of his profession.

Today, when counselors advise and students choose from among the various social sciences, many of those with journalistic aspirations are turning to economics. Indeed, while political-science courses as a group are most often taken to fulfill social-science requirements in the leading journalism schools, the course in survey of economics or in principles of economics is clearly the most favored single offering. And there are indications in the recently expressed thought of journalism teachers generally that economics courses for their students will continue to gain in popularity.

The reasons for this upsurge of interest in economics are somewhat apparent. World and domestic affairs, the raw materials of the journalist, have tended more and more to bear a relationship to economics. The recession, the race for control of outer space, disarmament, island revolts, Middle East crises, the growth of national movements, elections, and taxes—none of these happenings can be understood without reference to the major economic implications involved. Instruction in journalism and communications has moved also in the direction of business-related pursuits. Last year, only about a third of the journalism graduates from the major schools and departments entered the editorial departments of daily newspapers. The failure of newspaper publishers to raise beginning salaries sufficiently to attract the best journalism graduates, along with the concurrent and tremendous demand in business and industry for

[1]Reported by Russell J. Jandoli, Chairman of the Department of Journalism, St. Bonaventure University.

people who can do an acceptable job of writing and editing, has enhanced the journalism graduate's opportunities manyfold. One authority has estimated that 20 per cent of each year's journalism graduates go into advertising; that many have turned to public relations, industrial editing or house-magazine work, sales promotion, business publications, technical writing, and those fast-growing, all-encompassing newcomers, internal and and external communications.

As a consequence, educators in the leading journalism schools, who have been regarding themselves since the Second World War as kith and kin of the overarching field of communications—for which they may claim paternity and which, to a considerable degree, they are responsible for rearing—have kept an open eye on business. They have been doing much to encourage the relationship between journalism and business. To cite only one example, since 1946 the Department of Technical Journalism at Oklahoma Agricultural and Mechanical College has been holding short courses annually for industrial editors and even offers a graduate program in industrial communications.

Recently the writer surveyed the journalism programs of the forty-four schools and departments accredited by the American Council on Education. In 63 per cent of the institutions, the economics survey or principles course is required. Survey courses in American government and United States history are close behind; sociology runs a poor fourth. Even when one combines the list of courses required with the list of those recommended, the economics survey or principles course maintains its lead, being required or recommended (or both) in 86 per cent of the schools. Probably because specialized courses in political science, such as international relations and political parties, are often recommended by the counselor for those planning to do editorial work on newspapers—this being the traditional pattern—political-science courses as a group do lead the list of social-science courses recommended or required for journalism students.

However, there is reason to believe that if advanced economics courses were not bound up so completely in theory and prerequisites, journalism educators would be inclined to recommend or even require more economics. Charles T. Duncan of the School of Journalism at the University of Oregon has called for more emphasis on economics, and other leaders, like Ralph O. Nafziger of the University of Wisconsin School of Journalism, appear to be turning to the field of economics in their thinking about background courses for journalism students. Though these educators would prefer students to take such courses as labor economics, labor relations, labor statistics, business organization, economic theory, and so on, some of their students are prohibited from doing so because such courses are slanted for majors with a great many prerequisites. An outstanding leader in education for journalism and a pioneer in the social science–integration movement, Ralph D. Casey, director of the School of Journalism at the University of Minnesota, has stated that, for the journalism student at least, "economics is keyed too much to theory—and not nearly enough in terms of

contemporary economic problems and trends."[2] A professional economist might regard such a statement as unenlightened, but it does have its point.

Perhaps a greater variety of basic courses—or of courses whose only prerequisite is the survey of economics—would help. Evidence that such an undertaking is workable is shown by the example of some educators in the accredited schools who now normally recommend to their students basic offerings in comparative economics, economic history, current economic problems, labor economics, statistical methods, agricultural economics, and, for advertising majors or those in an advertising sequence, marketing and marketing research.

Thus, in a number of leading journalism schools, some increase in encouraging students to take more economics has already been made. At the University of South Carolina, the journalism student may take 12 hours in economics and at Oklahoma Agricultural and Mechanical College those in the business-journalism sequence are free to take an even more generous serving. At Boston University, in addition to a heavy concentration of courses in the social sciences generally, the student still has 15 to 20 semester-hours of electives available for concentration in economics, if he so desires. At the William Allen White School of Journalism at the University of Kansas, advertising majors may stress economics, and this is true elsewhere. Those in the advertising sequence at Northwestern University's Medill School may concentrate in economics to the extent of 24 quarter hours. A Medill student interested in labor reporting may take a full battery of courses in labor economics. At the University of Tennessee and at Michigan State College some students may obtain the equivalent of a second major in economics.

It should be stated, however, that all but a handful of the journalism educators in the leading schools are unfavorably disposed to the idea of having economics and other social-science courses taught especially for journalism students. They want no watering down. The people in journalism do not believe they are distorting the student's education in any way by looking to economics for required and elective courses, whether the subject be taught in the school of business or the college of arts. Indeed, along with the other social sciences, economics is regarded as an enrichment of the student's training. Even should the journalism major enter newspaper work and remain there the rest of his life, a knowledge of the forces at work in the economy is *de rigueur*. If he is to rise to the top, he must possess a fundamental knowledge of the world about him and this is coming to mean an understanding of domestic and foreign economic systems to a greater degree than was formerly the case.

With the upsurge of interest in communications on the part of business, journalism, and economics, educators will find their common interests growing. It might be well for the economics major to look into a writing course in journalism as an elective, considering that so many English departments have abandoned the teaching of written communication. It might well prove the needed

[2]Letter to the writer, February 15, 1956.

protreptic for the incipient communications specialist in business.

There is, then, increasing co-ordination between these two fields and such a change is to be highly recommended. The establishment of special curriculums involves a large expense, to be sure, and the universities and colleges are not inclined to spend more money in the specialist areas at this time. Indeed, specialized curriculums of this sort may be held suspect in some quarters. Perhaps economics departments might better serve the journalism schools with only minor adjustments in their programs. At the same time, by interdepartmental action, journalism, economics, and business administration departments should be able to work out joint programs to meet the growing needs for communications personnel in business and industry.

The Small-Group College Orientation Program[1]

The extent and types of freshman orientation courses in the colleges have not been definitely determined although a few limited surveys have been reported. Aaron G. Breidenstine in 1953 reported that 70 per cent of the colleges in the Middle Atlantic States had freshman orientation programs with an average duration of one semester.[2] In a more recent study of 69 small colleges, George H. Greene found that 52 per cent had a freshman orientation course, with most of the remainder planning to add one.[3] Walter W. Ludeman sampled 37 colleges in the Middle West and concluded from his findings that

> . . . the trend is toward distributing orientation over longer periods of time rather than concentrating it in a few days at the opening of the school year. . . . Orientation is becoming more and more a vital adjunct of the guidance program. . . . A plan of orientation should be a co-operative venture of most of the faculty rather than the responsibility of one or two persons.[4]

For the past five years, Hofstra College has been supporting an orientation program that fulfills each of these recommendations or conclusions and which has some additional less common features. This program covers the entire freshman year and involves both small-group discussion meetings of three hours a week for a semester and private conferences. The teachers for the program are recruited from all the departments of the College and the whole program is under the direction of the office of the dean of students.

The program is student-centered in that the major responsibility for course content and direction rests in the hands of the students rather than the teacher. It is group-centered since individual competition (for marks) is minimized and co-operation and sharing of experiences are encouraged. Under these relatively permissive conditions it is found that the students discuss more or less deeply everything from how to study to marriage and a philosophy of life.

In order to determine the extent of programs of this type, a brief questionnaire was sent to every tenth college listed in *The Blue Book of*

[1]Reported by Robert Plutchik, Assistant Professor of Psychology, and Randall W. Hoffmann, Associate Dean of Students, both of Hofstra College.

[2]"Report to Eastern Association of College Deans and Advisers of Men," November 19, 1953.

[3]"Freshman Orientation Courses in Small Colleges," *Personnel and Guidance Journal*, XXXII (April, 1954), p. 480.

[4]Ludeman, W. W. "Trends in College Freshman Orientation," *Educational Forum*, XXI (November, 1956), p. 65.

American Colleges. Over 247 replied, a return of 73 per cent.

In the questionnaire "small-group approach" was defined as "developing the subject-matter of orientation through discussion and other small-group techniques in classes numbering fifteen to twenty with more emphasis on student participation than on lecture."

The results indicated that 44 per cent of the colleges that replied currently support a freshman orientation program of at least one semester. Twenty-one per cent reported that they use the small-group approach as described; 3 per cent said that they plan to change to this approach.

The comments which were included on many of the returned questionnaires were classified under one of the following headings:

	Per Cent of Colleges Replying
A mixture of small and large groups is used over a whole semester	6
There is a brief orientation to college at the beginning of the freshman year	28
A small-group program is desirable, but staff or financial problems prevent such a program	11
Only deficient students go into a semester-long program	2
Such a program was tried but not continued	3
Such a program is desirable and is being considered	16
Freshmen receive a series of lectures over a semester	7
The current program uses only faculty advisers and/or upperclassmen	4

In view of the fact that a random sample of the nation's institutions of higher learning was polled and an unusually large number replied, the conclusions probably have close relevance to this larger population. The data seem to show that about 21 per cent of American colleges and universities have a semester-long freshman orientation course in which discussion techniques are used. In addition to this, 3 per cent are planning to institute such a program and 16 per cent consider it desirable and have such a program under consideration. This gives a total of 30 per cent either using such a program or considering its use. This would seem to be consistent with the findings of Ludeman who reported a trend toward distributing orientation over longer periods of time rather than concentrating it in a few days at the opening of the school year. It suggests, in addition, that the use of small discussion groups has definitely found a place in orientation courses and is probably increasing.

It should be noted that the figure of 44 per cent of colleges having a semester-long orientation course is somewhat lower than the two previously mentioned findings of 70 per cent and 52 per cent. This is probably due to the differences in the group of colleges polled. The latter two were either colleges in the Middle Atlantic states or colleges with small enrollment while the sample reported here is nation-wide: apparently there are regional differences in the development of these programs. Both large and small institutions report its use.

The University of Mississippi Plan[1]

Among the manifold causes for concern in the American educational system is the conflict between the desire to educate all members of our society and the necessity for developing the greatest intellectual potential of the country. In essence it offers a concrete example of the basic conflict between the Jeffersonian and the Jacksonian concepts of

[1]Reported by Doris Raymond, Preceptor for the Scholars, University of Mississippi.

democracy. Until rather recently Jacksonian democracy has swept the field, a victory which is closely related both to the wave of anti-intellectualism and to the current fear that our ideological enemies may be outstripping us in the scientific field.

The growing awareness that intellectual inequalities, over which mortals have no control, have to be recognized and that the intellectually gifted are as special as the dull has led some educators to experiment with means of educating these young people according to their abilities. Two diametrically opposed attempts at a solution of the problem of adequately educating future leaders of our country are being made. The one, favored by a majority of those centers of higher education studying the problem, is acceleration. This approach, with its undertones of progressive education, assumes that the student understands what he must learn, sees his goal clearly, and will hasten to learn all that is required. The other approach, less frequently used, is that of enrichment. In such a program the student is not the final arbiter of the range of his studies; he chooses his major field of study and every effort is made to increase his experience in that field and to acquaint him with the other main fields of human thought and achievement. No encouragement is given to haste.

This latter approach has been adopted by the University of Mississippi. Five years ago, aided by a grant from the General Education Board, the University inaugurated a special program for superior students in the College of Liberal Arts. The Scholar Program was started in the fall of 1952, under the guidance of a faculty committee. Before the end of the year it was clear that the size of the committee militated against effective supervision of the students; a smaller committee the following year likewise proved cumbersome. In the fall of 1954 the administration of the program was entrusted to a single member of the faculty as Preceptor for the Scholars, supervised by the Scholars' Committee and the Dean of the College of Liberal Arts. This arrangement has thus far proved satisfactory.

The program is built around the existing liberal-arts curriculum, with specific requirements for each of the four years. The details are as follows:

1. Freshman year
   A. Scholars are registered, for both semesters, in a section of English for better-than-average students.
   B. They select two of their regular freshman courses in which to do an additional hour's work each week, under the direction of the department chairman. No extra credit is given; the type of work is at the discretion of the department involved. Quantity and quality of each student's work are reported to the Preceptor at the end of each semester.
2. Sophomore year
   Scholars select three of their regular sophomore courses, specifically not in areas covered by Scholars' work of the preceding year, for individual work under the conditions obtaining for the first year's work.
3. Junior year
   Scholars enroll in a "Scholars' Course" in the history of ideas for both semesters, for a total of six semester hours of upper-division credit.
4. Senior year
   A. Every Scholar completes, in one semester, a special project in his major field, in an area of research approved by his department chairman and the Preceptor.

B. Every scholar enrolls, for one semester, in a course open only to graduate students, in the department of his major field, or in another area with the Preceptor's permission. The scholars receive six hours of upper-division credit for the two semesters.

In addition to these purely academic elements in the program, Scholars at all levels attend informal meetings with visiting lecturers, professors, artists, and other distinguished visitors to the campus. Scholars are urged to attend concerts and operas in Memphis, where, through the good will of outsiders interested in the program, they often are given the opportunity to meet great artists. Scholars have other privileges and opportunities as well. They are the only undergraduates who have stack permits in the University library. They are helped to build their own libraries, either through the acquisition of paper-backed books from various publishers or through opportunities to secure free or low-cost books.

The basic requirement for admission to the program is the student's entrance rank, as determined by University tests. Freshmen in the Liberal Arts College whose entrance test scores are above the 90th percentile are given the opportunity of participating in the program. Its advantages and disadvantages (for it does entail extra work on the part of the student) are explained in detail to him. The number of students to whom the invitation is issued is usually about thirty, of whom about twenty-five usually accept. At the beginning of the second semester freshman liberal-arts students not already in the program who have made the Dean's List (4.5 or over) at the end of the first semester are invited to participate. Their number is never more than ten, of whom perhaps two or three will decline. Rarely is a student who has achieved the Dean's List at the end of his second semester given the opportunity to join; an occasional sophomore transfer student with exceptional marks in a basic freshman program is admitted. It has never seemed advisable to admit a student to the program after the beginning of his sophomore year, since the work in the upper division is felt to require most, if not all, of the preparatory work of the lower division.

At the end of each semester the extent and the quality of the lower-division students' participation in the program are scrutinized: academic marks, attendance at Scholars' meetings, and reports of individual instructors with whom the student has worked are studied by the Committee, and the observations of the Preceptor are considered. Those students who have not given evidence of realizing the purpose and worth of the program are dropped, since emphasis is on quality rather than on quantity. In the consideration of any student, however, his potential, in so far as it can be determined, is weighed along with his current performance. Given individual disparity, and the disparity of background, these better-than-average young people are adjudged individually (often by intangibles) rather than by any rigid group standard. The culling process is generally completed by the end of the sophomore year; at the end of the junior year some students leave the program to enter medical or law school, although we try to make them aware of the importance of a four-

year course. When economic reasons compel students to an accelerated program, they cease to be Scholars.

Since the basis of this program is enrichment rather than acceleration, every effort is made to convince the student of the importance of allowing himself sufficient time to attain some mastery of his subjects. Semester hours are set at a maximum of eighteen, with a preference for fifteen. Since the Bachelor's degree requires 130 hours, Scholars cannot, for four years, be absolutely restricted to fifteen hours. Summer School is frowned on, except in two instances. A student is encouraged to attend any of the foreign-language schools conducted by the University in France, Germany, and Mexico. A student who knows he will have a heavy schedule of extra-curricular activities (such as editorship of the annual or presidency of the student body) is permitted to accumulate credits in Summer School in order to do justice to his Scholars' work during the school year. Objections to summer-school study are chiefly three: the rapid pace of summer work does not allow for so much real assimilation of material as does the regular academic session; since the Scholars' Program does not operate in the summer term, Freshmen and Sophomores cannot do individual Scholars' work in courses taken at that time; a "digestive" or "fallow" period, or possibly a time for extended reading in areas of interest, is of major importance to the student.

The work done without credit in the first two years is the basis for the course taken by Scholars in the third year—a seminar course in the development of man's thought, from ancient times to the beginning of the twentieth century. Crane Brinton's *Ideas and Men* serves as a springboard to the original source material making up the major part of the assignments. It is not a philosophy course, although philosophical ideas which have affected the course of man's thinking in other areas are included. It might better be termed a course in the development of twentieth-century man. The Preceptor administers the course, conducts some of the discussions, and arranges for the participation of appropriate members of the faculty. Visiting professors also conduct the class at intervals. The students write two papers each semester, on subjects in the course which stimulate them to think for themselves. Further broadening of interests and stimulating independent thinking are the aims of the course.

The work of the fourth year is largely individual; each student works on a minor research project under the direction of his major professor. Currently, a mathematics major is working out a problem in probability; a German major is trying to assess the effectiveness of German translations of Shakespeare; a Spanish major is working on the background of a Latin-American writer. These Seniors meet informally with the preceptor from time to time in a group, to compare notes and to keep abreast of each other's activities, for by this time they have developed an *esprit de corps* which in itself is salutary.

It is perhaps too soon to measure the success of the program, since only four Scholars have been graduated. Of the four, one is doing graduate work in history in the University; one is on a scholarship at the Massachu-

[*Continued on page 292*]

·The·Reporter·

AN EXPERIMENT to get more books into circulation is being conducted by the Amherst College Library. Several hundred paper-bound books of all descriptions have been purchased by the library and put on open shelves. Students are encouraged to take the books without signing them out. The student stamps the date in the books he wants to take and he is then permitted to keep the books as long as he likes. During the first day of the experiment, 180 of the 260 books were taken out. By the end of the week another 130 books were added to the shelves and a few days later only 25 remained, several of which had been taken out and returned. None of the books are assigned for direct classroom use. Although some of them undoubtedly are being used for reference, indications are that at least as many are being taken for general reading.

If successful, the experiment will represent substantial savings in library operations. The paper-bound books are not catalogued, thus saving approximately $1.50 a book, there is no cost of circulation, and they do not require rebinding; only the initial cost of the books is involved.

A GRANT of $756,950 from the W. K. Kellogg Foundation to make possible the establishment of an Institute for Community Development has been accepted by the governing board of Michigan State University. The Institute will be administered by the Continuing Education Service of the University. It will utilize a staff of campus specialists representing subject-matter areas, a corps of "project leaders" to help communities work through their problems, and a team of research specialists. The grant will cover a five-year period. It is expected that for the first year, the Foundation will contribute $134,500; communities, $30,000; and the University, $50,000. The hope is that by the end of the fifth year the program will have been sufficiently well established that it can continue through a combination of University appropriations and local support.

A PLAN to increase the number of young teachers for engineering schools, proposed by the American Society for Engineering Education, has been presented to James R. Killian, Jr., President Eisenhower's Special Assistant for Science and Technology. The Society believes that to encourage more good students to enter graduate study, basic research in engineering must be expanded and Federal agencies supporting such research should enlarge the number and amounts of their grants to cover the real costs. The grants also should be sustained for longer periods.

Based on these premises, the plan of the Society calls for a substantial increase in the number of National Science Foundation fellowships for first-year graduate study; a program of secondary grants to those who fail

to qualify for full fellowships; supplementary Federal grants to fellowship holders who take part-time teaching assignments; and a new program of awards by the Foundation to increase the financial aid to graduate students who combine teaching with their education and research experience.

FULL-CREDIT summer courses in mathematics, science, and history will be open to high-school students from nine Greater Boston communities in the annual Harvard University-Newton Summer Program for 1958. This is the senior high-school section of the Program, which is operated in conjunction with the Newton High Summer School in Newtonville. A qualified student now in the ninth, tenth, or eleventh grade can take a regular high-school course in algebra, mathematics, biology, physics, world history, or American history. The courses will be taught by superior instructors from colleges and schools throughout the country, each assisted by two or three members of the Master of Arts in Teaching Program at the Harvard Graduate School of Education.

THE fourth annual Creative Problem-Solving Institute, co-sponsored by the University of Buffalo and the Creative Education Foundation, will be held June 23–25. The program will feature case histories of recent developments in creative education and "brain storming." The program has the following objectives: to provide knowledge of educational methods for the development of personal creativity; to provide training in the operational use of creative procedures for organizational problem solving; to help participants become better able to conduct creative problem-solving courses and programs, as well as to organize and to lead brain-storming sessions; to provide opportunity for participants to discuss their own problems and interests personally with one another, and with experienced leaders; to provide a wide choice of specialized seminars from which participants (both former members and new members) can select the ones best suited to their own interests; and to bring all members up to date on new developments in the creative thinking field, such as the recent Yale study. Outstanding men and women in the fields of business, industry, and education will serve as leaders of the various general discussion groups, seminars, and brain-storming sessions. Attendance will be limited to three hundred. For further information and reservations write to: Sidney J. Parnes, director of creative education, University of Buffalo.

THREE forms of advanced standing are available to undergraduates at Harvard and Radcliffe Colleges: advanced placement, sophomore standing, and admission without diploma. Advanced placement is open to Freshmen who show that they have completed college-level work in one or more subjects. These Freshmen are encouraged to take advanced courses. This privilege has existed at the two Colleges for many years; the present program aims at making it effective for all properly qualified students. The two Colleges are co-operating with the College Entrance Examination Board in an effort to develop advanced placement examina-

tions in the major disciplines acceptable to both colleges and schools.

Students who show that they have done work equivalent to college courses in three or more subjects are placed in the sophomore class, with full academic and social standing as Sophomores. They are free to proceed through the normal work of the upper years and to be graduated in three years; or they may elect to remain in college for the fourth year, devoting as much time as they wish to work in the Graduate School of Arts and Sciences. Admission to the freshman class may now be granted to "students of superior achievement and maturity who have completed the eleventh grade of secondary school." Admission without diploma is designed to permit more rapid and effective progress for students who are ready for college work at the end of the eleventh grade and whose education can best be served by a direct move to college instead of a final year in high school.

A LONG-RANGE approach to development of a modern curriculum in college-preparatory mathematics is being undertaken by the school boards of five municipalities in co-operation with mathematicians from Princeton University and the Educational Testing Service. The program calls for an examination of mathematics from beginners' arithmetic to college calculus as an integral part of the education for all future citizens. The first step in what is called a "three-phase venture" consists of a fifteen-weeks series of one-hour classes which are designed to give mathematics teachers in public elementary and secondary schools "added insight into the nature of mathematics as a creative endeavor in twentieth-century civilization." The orientation classes, continuing through June, will be supplemented next fall by a yearlong "curriculum for teachers," which will be largely concerned with course material in special areas, such as algebra, plane and solid geometry, and trigonometry, and the relationships between the teachers' individual courses and new conceptions in mathematics. In the near future lies a revamped curriculum that will give students a view of contemporary mathematics as a whole and will enable qualified students to take the equivalent of an added year of advanced mathematics at the high-school level.

FORTY-FOUR workshops, conferences, and special programs are scheduled for the University of Chicago's summer quarter, from June 23 through August 29. Workshops for teachers and prospective teachers include:

Writing Music	June 23–August 29
Therapeutic Approach in Working with Individuals and Groups	June 23–July 4
Anthropology and Business	June 30–July 12
Rorschach Test	July 7–12, 14–18
Elementary Education	July 7–25
Secondary Education	July 7–25
Education of the Gifted	July 7–25
Reading	July 7–August 1
Administration of University Adult Education	July 14–August 2
Library Materials for Use with Children	July 23–25
Language Arts	August 4–22
Method of Family Research	August 11–22

The conferences scheduled:

Twenty-first Annual Conference on Reading	June 30–July 3
Twenty-third Annual Conference of the Graduate Library School	July 7–9
Twenty-second Annual Conference on Guidance and Personnel	July 10–11

Special programs of the summer

quarter are: an intensive course in elementary Russian; a special program in mathematics, concentrating on functions of several complex variables and algebraic geometry; and an institute for high-school teachers of mathematics sponsored by the National Science Foundation. The University's Federated Theological Faculty will offer six seminars, and the School of Social Service Administration, nineteen two-week workshops.

THE summer sessions at the University of Wisconsin, June 30 to August 22, will include a full schedule of 8-weeks courses, two 4-weeks sessions, and 45 special institutes. Also included will be a 3-weeks regional school for agricultural and home-economics extension workers, June 9–27; a 10-weeks law school session, June 23 to August 30; a 3-weeks Latin workshop, June 30 to July 18; two civil-engineering survey camps, June 16 to July 26 and July 28 to September 6; two chemical-engineering sessions, June 16 to July 18 and August 4 to September 5; and the 6-weeks session of the University at Milwaukee, June 23 to August 1.

SCIENCE teachers from sixteen public and private secondary schools and from three colleges will attend the third Harvard summer program in Nuclear Sciences, June 30 through August 22 at the Harvard Medical School. As in the past two years the instruction will center in a course, Principles of Radioactive Measurement. Lectures and laboratory sessions cover such topics as the elements of nuclear structure, methods of detecting radioactive material, elementary statistics, the use of isotopes in biological programs, and the interaction of radiation with living systems. The Harvard program is supervised jointly by the Harvard Graduate School of Education and the Biophysical Laboratory of the Medical School, under the sponsorship of the National Science Foundation and the Atomic Energy Commission.

THE program of continuing education at Antioch College includes, among numerous other offerings, experimental courses in which members of families join in a common learning experience. The first member from a family pays the full fee of $15 per course, and each additional member pays half this amount. Current offerings comprise three courses: French for Families, Science for Families, and Literature for Families. Children in the first course must be able to read and preferably be in the third grade or above; those in the other two must be in the eighth grade or above.

A NEW full-year language course in elementary Russian will be offered at Harvard this fall, primarily in response to requests from students in the sciences. It is in addition to the intensive, one-semester Russian course now offered. It will give the student a vocabulary of about fifteen hundred words and a working knowledge of Russian grammar. A vocabulary of at least three thousand words is needed for literary reading. It is believed that a student in science and mathematics who has taken this course will be able to get through Russian scientific publications with the aid of a dictionary.

··Reviews··

Important for Its Implications

A History of the University of Bombay 1857–1957, *by S. R. Dongerkery*. Bombay, India: University of Bombay Press, 1957. 313 pp.

The importance of this book by the Rector of the University of Bombay lies in its implications for educators and administrators today. In unexciting, factual terms the author describes the growth in India of an institution patterned on one from the Western world. It was one of the three universities "constituted on the model of London University, at that time a purely examining body, which admitted to its tests only students trained in affiliated institutions" (page 11). Its purpose was to provide Western education to the higher classes of the Indian population in accordance with Macaulay's famous minute which envisaged "a class of persons, Indian in blood and colour, but English in taste, in opinions, in morals and in intellect" (page 62). These two characteristics set the stage for its future development.

Quantitatively the development has been phenomenal: at the first Matriculation Examination, "132 candidates appeared" (page 16); when it was held for the last time in 1948 the number had risen "to 43,646" (page 170). But more significantly this examination had dominated the secondary schools (Chap. xiii). Again, by 1947 the number of affiliated colleges "had mounted to 79 and the student population had increased to 41,829" (page 97). But a constant problem had been the need to strengthen these colleges and improve the University's control over them. This has been done by a transformation in the functions and powers of the University. The attempts to make Bombay a "teaching and federal" university bore fruit in the Act of 1953. This gave it powers to frame statutes, to lay down minimum standards of teaching, and to inspect the colleges. So that today, according to the author, the "strength of the University lies in the strength of its constituent colleges and recognized institutions" (page 162).

Other problems have concerned the medium of instruction, the place of modern Indian languages in the courses of study, and the recruitment of suitable teachers for the colleges and departments. Above all, however, has been the question of control and administration—a question of the relationship between the University and the government. It has colored all other issues. From the start, the Indian universities "were not corporations of scholars but corporations of administrators" (page 13). This no doubt increased the fear of some people that they would become departments of the government. Thus, issues were often debated in political terms. When proposals were made to remove English history from a course they were interpreted as government attempts to "deprive the Indian student of the opportunity of studying a subject which was likely to instil into his mind Western ideas of freedom and independence about which the Government was feeling unjustifiably nervous" (page 62). Similar interpretations were placed on the Government's attitude to certain other subjects (pages 120 and 133), and on its policy of giving a few able men sound educations rather than extending an inferior education to large numbers of people. This was seen by many as a device to restrict "the spread of higher education for political reasons" (page 41).

The moral should be clear. Political considerations frequently obscure educational issues to the extent of making judgments on the latter on their merits almost impossible. Furthermore, under conditions similar to those which exist in British India the motives of educational reformers and administrators will be suspected and good intentions are likely to be misinterpreted. These are some of

the implications this reviewer draws from Rector Dongerkery's book. The latter is conscious of the problem and his chapter on "The University and Government" is one of the most interesting. This theme, however, runs through the whole book; but it is not overplayed. This is not polemical, it is a scholarly book for the scholar. The main sources quoted are the many university reports that have been prepared in India, periodicals, and recognized books on Indian education. It is a remarkably objective picture and should appeal to those who wish to understand the problems and achievements of higher education in India.

BRIAN HOLMES
University of London

THE CHRISTIAN IDEA OF EDUCATION, *edited by Edmund Fuller*. New Haven, Connecticut: Yale University Press, 1957. xv+265 pp. $4.00.

This book is the record of a seminar held at Kent School to commemorate its fiftieth anniversary, including addresses and discussions by nine contributors. It shares the handicap of many symposium volumes, being uneven in presentation, lacking in focus, and confused in objective. Indeed, as one speaker remarks in a burst of candor, "there is no common agreement either about the nature of Christian education or about its purpose and scope."

Although the comparison is not precisely analogous, one calls to mind in this connection Sir Walter Moberly's *The Crisis in the University* (London, 1949) in which the impact of one thoughtful mind is brought to bear on the condition of higher education in point of its religious momentum; and a broad catholicity of modern Christian conviction becomes the criterion for critical comment. In contrast, one comes away from a reading of this work with a discouraged sense of multifarious theologies and outdated metaphysics as participant Reinhold Niebuhr himself does not hesitate to point out. Perhaps the confusion of Christian witness in the conduct of even the church-related colleges and schools is the outward evidence of the disunity of mind and spirit which this volume seems to one reader to reflect.

ORDWAY TEAD
Member, Board of Higher Education
New York City

A Cross-Cultural Study

NO FRONTIER TO LEARNING: THE MEXICAN STUDENT IN THE UNITED STATES, *by Ralph L. Beals and Norman D. Humphrey*. Minneapolis, Minnesota: University of Minnesota Press, 1957. xiv+148 pp. $3.25.

This monograph reporting a study of the Mexican student in the United States was undertaken as one of a group of studies sponsored by the Committee on Cross-Cultural Education of the Social Science Research Council. In 1952 little was known about the foreign student in America, since most reports had been impressionistic essays dealing with selected topics of cross-cultural contacts. It seemed important, therefore, to study at length several groups of foreign students so as to establish provisional findings and promising areas for further exploration.

The Mexican study is based primarily upon open-ended interviews with a core group of ten students at the University of California at Los Angeles. The interviews lasted from four to twenty hours and were recorded in order to facilitate careful study of them. Fifty-two other Mexican students throughout America filled in test materials. From a third group, 71 Mexican students who had returned to Mexico City or Guadalajara, 26 case histories were gathered.

The authors' approach to understanding the Mexican student is to keep

> . . . the cultural approach central. . . . In our view the individual and social-psychological processes are set in a matrix of functionally related social institutions and cultural norms which give form and meaning to experience and to behavior (pages 3 and 4).

They then analyze the nature of Mexican culture with its traditional and emergent values and use these elements to explain their data.

The authors, under the headings, "Adaptation to United States Life,"

"Opinions and Reactions," and "Consequences and Problems," give background information about the type of Mexican student who comes to America. Thoughtfully, the authors reserve their description of methodology for the appendix.

Their findings are interesting and informative, but they are stated in a somewhat apologetic manner: "because of sampling and interview difficulties, the conclusions of this study are not definitive, although we believe them to be substantially correct" (page x). On the other hand, however, they do not worry enough when they discuss "personality characteristics of Mexican students," basing their conclusions largely on a sentence-completion test.

Such uncertainty about the results of the study and the manner of its documentation leave the reader uneasy as to what is art and what is science in the book. The authors attempt to leave the reader with the impression that their report is scientific. A better design for the study could certainly have been expected even at the initial stages of exploration.

The authors' report, scientific or not, provides educators and social scientists with practical and theoretical leads about people from other countries who are in the process of learning in and adjusting to this country. The information provides many landmarks in the uncharted area of cross-cultural contacts. All educated people will find pleasure in reading this report about our neighbors to the South.

LEWIS M. K. LONG
Little Rock, Arkansas

A General Description

A PRACTICAL GUIDE TO EFFICIENT STUDY: A DETAILED DESCRIPTION OF WHAT YOU CAN DO TO MAKE LEARNING EASIER, *by Charles Lawrence Gunthorp*. New York: Exposition Press, 1957. 118 pp. $3.00.

To find such a title on a book of so few pages calls attention, and not in this book's favor, to the tightly packed, double column, 262-page *Effective Study*, by Francis P. Robinson (New York: Harper and Brothers, 1941 and 1946). Ironically, Mr. Gunthorp seems not to know of Robinson's SQ3R method of study, the most carefully articulated system of them all.

This book is inspirational rather than soundly pedagogic. It is, the subtitle notwithstanding, a very general description of what an untrained person can do to master easy learning. With an audience of graduating high-school Seniors who want a quick, you-do-it-for-me kit, or for an adult who needs the most elementary of skills, this guide would be appropriate.

A case in point is the 15-page chapter on writing, magical Chapter VII with 7 subdivisions: selecting a subject, finding something to say, taking notes, organizing your material, writing an outline, writing the paper, and revision. This seems the best way to write a paper. In no place, however, does the author suggest that purpose looms most important in any writing. No subject can be found, no plan outlined, no writing begun until the writer determines why he is writing, what he wants to accomplish—unless, of course, he only wants to write a passing theme, for which purpose Mr. Gunthorp's system will work every time. In fact, the whole aim of this book is just that, to pass rather than to learn. This quotation will serve as illustration:

> Briefly, the object of this book is to present sound, practical methods of learning in a way that will be helpful to the ordinary mortal, and not merely of interest as a philosophical discussion. Since people are not alike, several good methods are given, when possible, so that you may choose the one best suited to you. Study techniques that require more time than the average person will devote to the attainment of a certain objective have been omitted (pages 13–14).

Aside from comparing the ordinary mortal with a philosophical discussion or allowing people to choose any method they want, Mr. Gunthorp eliminates the study methods which take time. I prefer to read "a certain objective" as *certain*, something which makes it possible to "get by." In practice this becomes what William James called the "softer peda-

gogy," and very comforting to the slapdash who are always with us.

Gunthorp, who advertises himself on the book's dust cover, may very well have formulated this philosophy while traveling for a fraternity, as he says. When asked how to improve scholarship he had ready answers, perhaps, as all teachers do. But is it really an answer when advocating three by five cards for notes while saying then that the system has one drawback, "the average student forgets to carry blank cards with him when working on a paper, and his notes soon become a conglomerate mass of cards and papers"? Or, worse, add, "if you are immature or careless, do not choose this method"? (page 88). How much better must the student feel when he can go back to his old notebook and his own non-system. His whole personality has been challenged by discipline without being harmed or changed in any way.

The author here is appealing to the forces of ignorance which so nearly overcome the scholarly tradition of excellence, an excellence so hard to achieve when the divine average is enshrined on the smooth surface of the bell-shaped curve. Most teachers, underneath it all, must really prefer to point their students along the more Spartan route to scholarship, with Robinson's textbook as guide rather than a crutch. The remainder are welcome to whatever comfort they find in that ever expanding five-foot shelf of bromides, headed by Carnegie and Peale books, where this guide will be filed for handy reference.

WILLIAM TILLSON
Purdue University

Short Reviews

THE VASSAR INSTITUTE FOR WOMEN IN BUSINESS: A REPORT OF THE PARTICIPANT OBSERVER, *by Marilyn Vaughan.* Chicago: Center for the Study of Liberal Education for Adults, 1957. iii+46 pp.

The Vassar Institute for Women in Business held August 5–19, 1956, was designed for the purpose of research in "the education of adults who have already had considerable vocational or professional training and experience." It was for women what the Advanced Management Program at the Harvard Graduate School of Business and the Executive Program at the University of Chicago were for men. The women selected were recommended by the National Secretaries Association as top women in their field.

With the intent to "broaden their intellectual horizons and enrich their lives aesthetically" a curriculum was planned in three subject areas, Public Issues, Man and His Behavior, and Creative Arts. For the two-week period room and board were estimated at $150. In addition to four able teachers, noted speakers presented, out of their knowledge and experience, information and inspiration in cultural areas and on current international and civic achievements.

Observers' reports occupy a large section of the booklet and represent an attempt to evaluate the two-week effort. That section, together with a cost analysis, seems to be designed to give pertinent data to any educational institution attempting such an institute.

THE GRADUATE STUDENT'S GUIDE, 1957–1958. New York: Columbia University Press, 1957. 197 pp. (Columbia University Bulletin of Information, Series 57, Number 39).

With characteristic humor and vitality Jacques Barzun, dean of the Graduate School, Columbia University, addresses this guide to the graduate student of Columbia and asks him to read it, master it, and believe it. It is designed to be used with the *Graduate Faculties Bulletin*, but the information and advice given in the Guide is a far cry from data found in an ordinary college bulletin.

There is the hour and place for afternoon tea in the section on Human Relations as well as the advice to listen to the tips offered on such an occasion but to check them before using as one would a questioned datum of research. Cultural and recreational opportunities are described as well as the practical matters of how to prepare a manuscript, where to find a typewriter, the purpose of the

final examination, the prospects of the scholar-teacher, opportunities for employment, and how to learn to use the libraries.

Part II is a reprint of the section on University Services and Facilities as found in the *Student Handbook*, and Part III, the final section, is devoted to departmental statements. An index concludes this unique and useful Guide.

Socio-humanistic Studies for American Engineers

EDWIN J. HOLSTEIN

[*Continued from page 260*]

indifference, and even by opposition, from the conservative professor of the academic college."[20] Apparently some liberal-arts professors were much less than willing to "cast their pearls before swine." Curiously enough, the academic professor did not have to look far for encouragement in this attitude among the ranks of the engineering profession. In 1912, an engineering educator observed that

> . . . some instruction masquerading under the guise of culture is of no cultural or practical value whatever when given to students whose social and educational environments are such that they cannot assimilate the culture. . . . The value of culture is not questioned . . . merely the attempt to give it to boys who are not in need of it and who cannot appreciate it.[21]

The historical pattern of skepticism toward socio-humanistic studies thus included a fear of bookishness; a feeling that all subjects were equally cultural; a philosophy that culture lay in the teacher, not the subject-matter; an idea that the student will liberalize himself informally; a desire to offer "slanted" courses in "useful" culture; and a conviction that in many cases culture was neither needed, nor appreciated, by the typical engineering student.

HENCE, according to the record of the past ninety years, the socio-humanistic content of the American engineering curriculum has declined from about 28 to 17 per cent of the total. Furthermore, engineering thinking in the past has displayed a distinct pattern of skepticism toward this content. It appears, therefore, that those educators (engineering and otherwise) who wish to extend and improve socio-humanistic subjects in engineering schools should be acutely aware that the weight of the past drags heavily upon them. In addition, they would be wise to know intimately the kinds of skepticism with which these subjects have been greeted over the years. Wide recognition of the gravity of the problem of giving our engineers "breadth" of outlook stands as the first step in solving it. An appreciation of some of the impediments to its solution in the past should mold the strategy of the future. [Vol. XXIX, No. 5]

[20] "The Five-Year Courses," S.P.E.E., *Proceedings*, Vol. XVII, 1910, p. 130.

[21] McKibben, Frank P. "Civil Engineering," S.P.E.E., *Bulletin*, II (April, 1912), p. 444.

Some Observations on the Evening College

ADMA D'HEURLE

[*Continued from page 266*]

level whereby they have the opportunity to study the serious professional problems at hand and take steps collectively to solve them. The

example of faculty collaborations in many an undergraduate college in thinking through and revising the college curriculum since Hutchins started his crusade at Chicago is available for the institutions which are serious about the business of education.

Such a reform would also in many situations require some changes in the physical conditions which would be conducive to the creation of an intellectual climate. It is rather unfortunate that the urban evening college is of necessity often housed in the accessible business section of the city, in buildings that suggest the impersonal, cold, and temporal climate of the business world or the ostentatious and harsh atmosphere of commercialized entertainment. While the world of monastic seclusion in which higher education was born is by no means the only one in which it can live, and the old conflict of town and gown is largely a question of history, the fact remains that some climates are better adapted than others to inspire the devotion, effort, and spiritual activity that the search for truth requires.

In conclusion, it may be said that the evening college is a new frontier in American higher education. It has come into existence in answer to varied community and university needs, particularly their need to come together, and it is here to stay. However, the present state of the evening college requires serious and sincere consideration of its proper curriculum, methods, and organization. Such consideration must take into account the unique position of this institution at the point where the life of the university and the life of the community overlap.

With the Technicians

[*Continued from page 282*]

setts Institute of Technology; one is a Fulbright Fellow in France; one is a Woodrow Wilson Fellow at Cornell University. On the campus itself the effects of the program are beginning to manifest themselves. Students campaigning for office list membership in the program high among their qualifications; sororities and fraternities seek to learn the names of potential Scholars for rushing purposes—of course, this is enlightened self-interest. Freshmen, outside the program, work to make the Dean's List in order to join the Scholars, and some students transfer to the College of Liberal Arts from other colleges in the University for the same purpose.

Many problems remain. Freshmen of high potential ability are sometimes so distracted by the novelty of campus life that they forget their purpose in coming to the University. The co-operation of individual instructors (who are not reimbursed financially nor given reduced teaching loads for their extra work with the Scholars) is not uniform. The occasional brilliant transfer student at the junior level should be fitted somehow into the program, even though he has not had the benefit of the first two years. A student of outstanding ability in a single area may be used by the department in which he excels as a measure against which Scholars of superior general ability are tested and found wanting. These one-faceted geniuses obviously need some sort of special attention. Since the Program is at present confined to the College of Liberal Arts there remains also the larger problem of the other colleges in the University.

Books Received but Not Reviewed

RICHARDSON, JOHN S. *Science Teaching in Secondary Schools.* Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1957. xiv+386 pp. (Prentice-Hall Education Series). $6.50.

ROBINSON, BLACKWELL P. *William R. Davie.* Chapel Hill, North Carolina: University of North Carolina Press, 1957. xvi+496 pp. $6.00.

RUNES, DAGOBERT D. *A Book of Contemplation.* New York: Philosophical Library, Inc., 1957. viii+150 pp. $3.00.

RUNES, DAGOBERT D. *Treasury of World Literature.* New York: Philosophical Library, Inc., 1956. xxi+1450 pp. $15.00.

Sarah Lawrence Studies, Volume VIII. Burlington, Vermont: Queen City Printers, Inc., 1957. 104 pp.

SCHONELL, F. ELEANOR. *Educating Spastic Children: the Education and Guidance of the Cerebral Palsied.* New York: Philosophical Library, Inc., 1956. xv+242 pp. $6.00.

SHILS, EDWARD A. *The Torment of Secrecy.* Glencoe, Illinois: Free Press, 1956. 238 pp. $3.50.

SIMPSON, GEORGE LEE, JR. *The Cokers of Carolina: a Social Biography of a Family.* Chapel Hill, North Carolina: University of North Carolina Press, 1956. xvi+327 pp. $5.00.

SMITH, RAYMOND G. *Principles of Public Speaking.* New York: Ronald Press Company, 1958. vi+376 pp. $4.25.

SMYTH, GERBERT WEIR. *Greek Grammar.* Revised by GORDON M. MESSING. Cambridge, Massachusetts: Harvard University Press, 1956. xviii+784 pp. $10.00.

SPINOZA, BARUCH. *The Road to Inner Freedom: the Ethics.* Edited by Dagobert D. Runes. New York: Philosophical Library, 1957. 215 pp. $3.00.

STOTT, D. H. *Unsettled Children and Their Families.* New York: Philosophical Library, Inc., 1956. 240 pp. $6.00.

STROUP, FRANCIS. *Measurement in Physical Education: an Introduction to Its Use.* New York: Ronald Press Company, 1957. xiv+192 pp. $3.50.

Studies in Education, 1956. Bloomington, Indiana: School of Education, Indiana University, 1957. viii+378 pp. (Thesis Abstract Series, No. 8). $1.00.

THACKREY, RUSSELL I., and KNIGHT, HOWARD LAWTON, editors. *Proceedings of the American Association of Land-Grant Colleges and State Universities.* Washington, D. C.: Executive Committee of the Association, 1956. 316 pp. (69th Annual Convention, East Lansing, Michigan, November 15–17, 1955).

THOMAS, CHARLES KENNETH. *An Introduction to the Phonetics of American English.* 2nd ed. New York: Ronald Press Company, 1958. x+274 pp. $4.50.

TOMKINS, SILVAN S., and MINER, JOHN B. *The Tomkins-Horn Picture Arrangement Test.* New York: Springer Publishing Company, Inc., 1957. xvi+383 pp. $10.00.

TRAXLER, ARTHUR E. *Techniques of Guidance.* Rev. ed. New York: Harper and Brothers, 1957. xi+374 pp.

Tulane Studies in Philosophy, Volume V. New Orleans: Tulane University, 1956. 93 pp. $2.00.

UNESCO. *Study Abroad: International Handbook Fellowships, Scholarships, Educational Exchange, Volume VIII, 1956–57.* Paris, France: UNESCO, 1956. 719 pp. $2.00.

The Vocabulary of College Students in Classroom Speeches

JOHN W. BLACK *and* MARIAN AUSHERMAN

The purposes of this study were to sample and appraise the formal speaking vocabulary of young men of college age and to specify the over-all vocabulary of a group of 274 students in 607 classroom speeches. The 6,826 different words are listed by frequency of use and are arranged alphabetically.

68 pp. $2.50

Bureau of Educational Research
Ohio State University

READABILITY: AN APPRAISAL OF RESEARCH AND APPLICATION

By JEANNE S. CHALL

Readability is a new field, rich in research and potential applications. Mrs. Chall traces its beginnings in early vocabulary studies and surveys of reading interest, and she follows through related areas to the development of readability formulas. She tells of many uses of readability techniques in determining the difficulty of elementary- and secondary-school textbooks, devising materials for adult readers, appraising the readership of newspapers.

Mrs. Chall, also, has drawn upon a wide range of materials. She has included a number of tables, reproduced from other studies. Since these tables are in psychological and educational magazines, often difficult of access, the inclusion of them has made this an excellent reference book.

Particularly valuable are the interpretations which Mrs. Chall gives of the factors which affect the understanding of the written text and the criteria which are useful in predicting or controlling its difficulty. *xiv*+202 pp.

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